

68NW9209G10B

12-Slot Systems Installation Instructions



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WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. IT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A COMPUTING DEVICE PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE WHEN OPERATED IN A COMMERCIAL ENVIRONMENT. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER, AT HIS OWN EXPENSE, WILL BE REQUIRED TO TAKE WHATEVER MEASURES NECESSARY TO CORRECT THE INTERFERENCE.

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Preface

This manual (Part Number 68NW9209G10B) is a compilation of installation instructions. Use the table of contents to find the instruction that applies to your installation.

The processor modules described in this manual include the MVME147-1/MVME147A-1 and MVME712M-1; MVME147S-1/MVME147SA-1 and MVME712A/B; and the MVME732 internal modem.

The installation of the following communications boards is described: MVME333X25/MVME705A/B; MVME374/MVMELAN; and MVME393/MVME792-2.

Installation of the MVME327A/MVME717 disk controller board is also included.

Disk, tape, and floppy drives described consist of the MVME852 and MVME853 SCSI streaming tape drives; MVME856 SCSI 8mm cartridge tape subsystem; MVME873 85Mb SCSI Winchester disk drive; MVME874 150Mb SCSI Winchester disk drive; MVME875 300Mb SCSI Winchester disk drive; and MVME876 600Mb SCSI Winchester disk drive.

Floppy drives described are the MVME881 floppy disk drive and SCSI controller and the MVME883 SA-450 floppy disk drive.

Additional information on the modules described in this manual may be found in the associated hardware manual and the system manual.

This is the second release of this kit instruction book.

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CHAPTER 1

MVME147-1/MVME147A-1 and MVME712M-1 Installation Instructions

This document supplies the necessary instructions to install the MVME147 or MVME147A and the MVME712M-1 boards in the 12-slot computer system (MVME955 enclosure).

The MVME147 has 4Mb of onboard memory. The MVME147A has 8Mb of onboard memory.

Additional Documents

- *System Manual*
- *Standalone System Interactive Diagnostics User's Guide*

System Cautions

If there is no available slot (two for the MVME147A) in the card cage or two slots in the back panel, this installation cannot be done.

Installation Instructions

System Shutdown

- a. Bring the system down as instructed in the System Manual.

CAUTION

Inserting/removing modules while power is applied may result in damage to module components.

- b. Turn the AC power off and remove the AC cord from the computer system.
 - If you are also installing the Internal Modem, MVME731K-6, do so now, then continue.

MVME147 or MVME147A Board Installation

- a. To remove the shroud, insert a stout instrument (such as a screwdriver) into the slot at the bottom center front of the shroud. Push up the latch release pin and pull the shroud forward until it is removed.
- b. Remove the cable cover (P/N 15-W5286B01) from the front of the card cage by sliding the cover up then pull the bottom away from the system and slide it down.
- c. If necessary, remove the filler panel from the first board slot. If the new board is an MVME147A, remove the filler panel from slot 2.

NOTE: Other boards in the system may have to be moved to allow space for the new MVME147 board.

CAUTION

Avoid touching areas of integrated circuitry; static discharge can damage these circuits.

- d. Check the jumpers on the MVME147 (P/N 01-W3520B04) or the MVME147A (P/N 01-W3520B14). See Figure 1 for either board.

NOTE: When checking the jumpers for the MVME224 memory boards, make sure that J5 is **not** installed.

- e. Gently slide the new MVME147 board into slot 1, until the connectors contact the PWA bus. The MVME147A is installed in slots 1 and 2.
- f. Line the board up in the connectors and apply pressure until a firm connection is felt.

CAUTION

Do not force the board into the backplane. If it is difficult to insert the board, remove it, start again at step "e" and follow the remaining instructions.

- g. Tighten the top and bottom screws on the board fascia.

MVME147P2 Board Installation

- a. In the rear of the system, remove two filler panels from board slots 1 and 2 (far right) for the MVME712M-1 board.
- b. Remove the three TERMINATOR SIPs from the P2 Adaptor PWB Assembly (P/N 01-W3570B01). See Figure 2.
- c. Attach the P2 mounting bracket (P/N 07-W5459B02) to the component side of the P2 Adaptor PWB Assembly using screw, P/N 03SW990F406. Insert screw from the non-component side of the PWB. See Figure 2.
- d. Remove the screw from the backplane located below the bottom backplane connector of slot 1. See Figure 3.
- e. Connect the P2 Adaptor to the P2 (bottom) connector on the backplane at slot 1, making sure that the connectors are facing the left side of the system (as seen from the back of the backplane). See Figure 3.
- f. Install the screw that was removed in step "d" back in the backplane. See Figure 3.
- g. Connect the P2 adaptor/transition board cable (P/N 30-W2799B02) to the P2 adaptor at J2, making sure that the red, blue, or dark grey stripe is toward the top of the system. The other end will be attached to the MVME712M-1 board. See Figure 2.
- h. Locate the connector on SCSI/P2/712 cable (P/N 30-W2104C02) that is opposite the end with the four connectors. Attach the second connector of the cable to the P2 Adaptor at J3, making sure that the red, blue, or dark grey stripe is toward the top of the system. The other ends will be attached to the MVME712M board and any SCSI disk or tape drives in the system.
- i. Route the short end of the cable, (and the modem cable, P/N 30-W2194C01, if installed), through the opening in the rear panel.
- j. Route the long end of the cable so that the LAST connector is near the bottom drive. These connectors will be used when installing other drives.

MVME712M-1 Board Installation

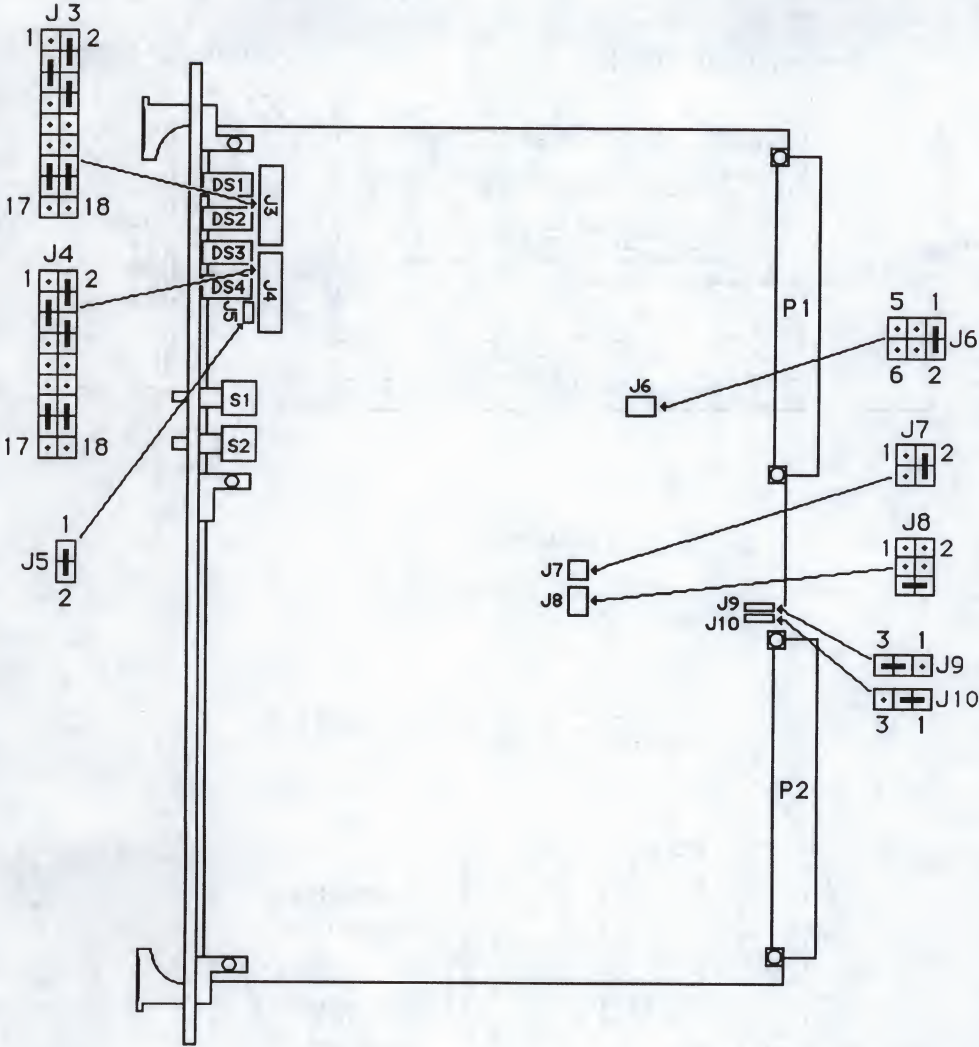
- a. Check the strapping of the MVME712M-1 board (P/N 01-W3538B01). Make sure that there are terminator SIPs **INSTALLED** at locations R8, R9, and R10. See Figure 4.
- b. Attach the short end of the cable, P/N 30-W2104C02, (previously installed) to the connector on the MVME712M-1 transition board at J3, making sure that the red, blue, or dark grey stripe is facing the top of the board. See Figure 4.
- c. Connect cable (P/N 30-W2799B02) to connector J2 on the MVME712M-1 board. Make sure that the red, blue, or dark grey stripe is facing the top of the board. See Figure 4.
- d. Install the MVME712M-1 board into the rear panel, (being careful not to crimp the cables just installed), and tighten the top and bottom screws on the board fascia.

Install any new drives now, then continue.

Completion and Testing

- a. Insert the cable cover (P/N 15-W5286B01) back into the front of the card cage by sliding the cover underneath the card cage flanges and then down over the lip on the base.

NOTE: Make sure all cables are not pinched by the cover.
- b. Slide the shroud all the way forward until a slight "click" is heard as it locks itself into place.
- c. Mark rating label, located on the outside of the rear panel, with the product code number. Use **147K** if an MVME147 was installed. Use **147KA** if an MVME147A was installed.
- d. Reconnect the AC power cord, turn the system on, and test using MVME147 Diagnostics.



MVME147/A-1

FIGURE 1

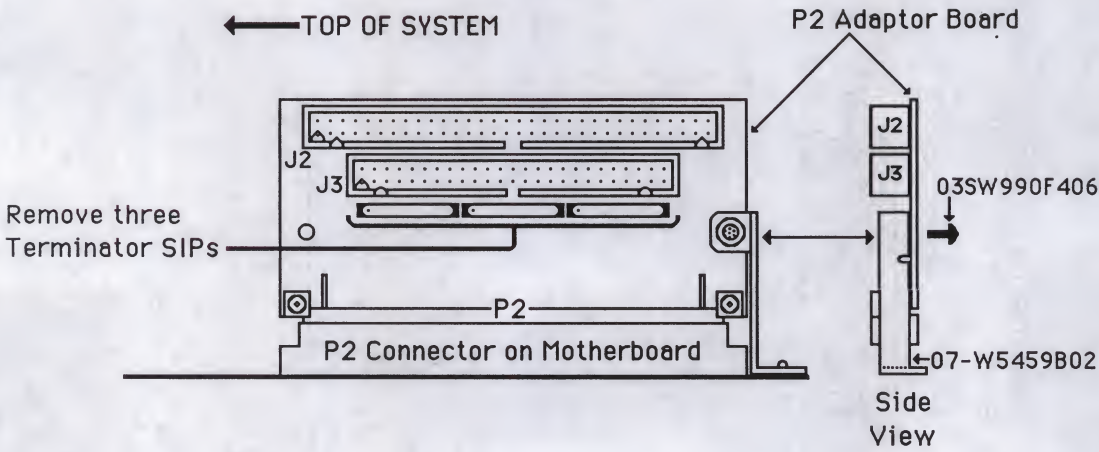


FIGURE 2

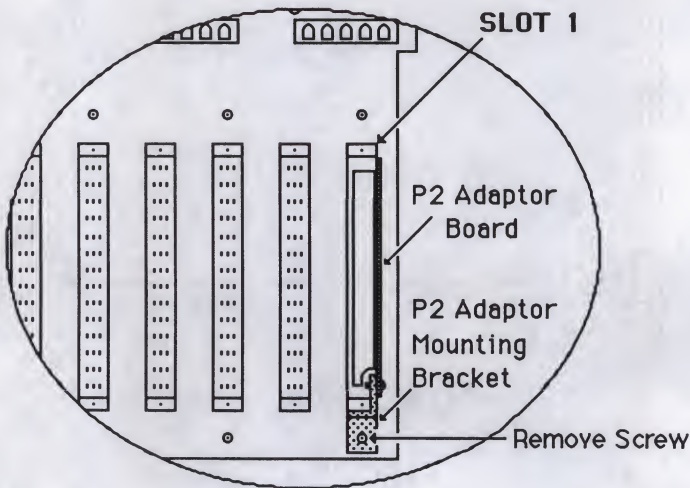
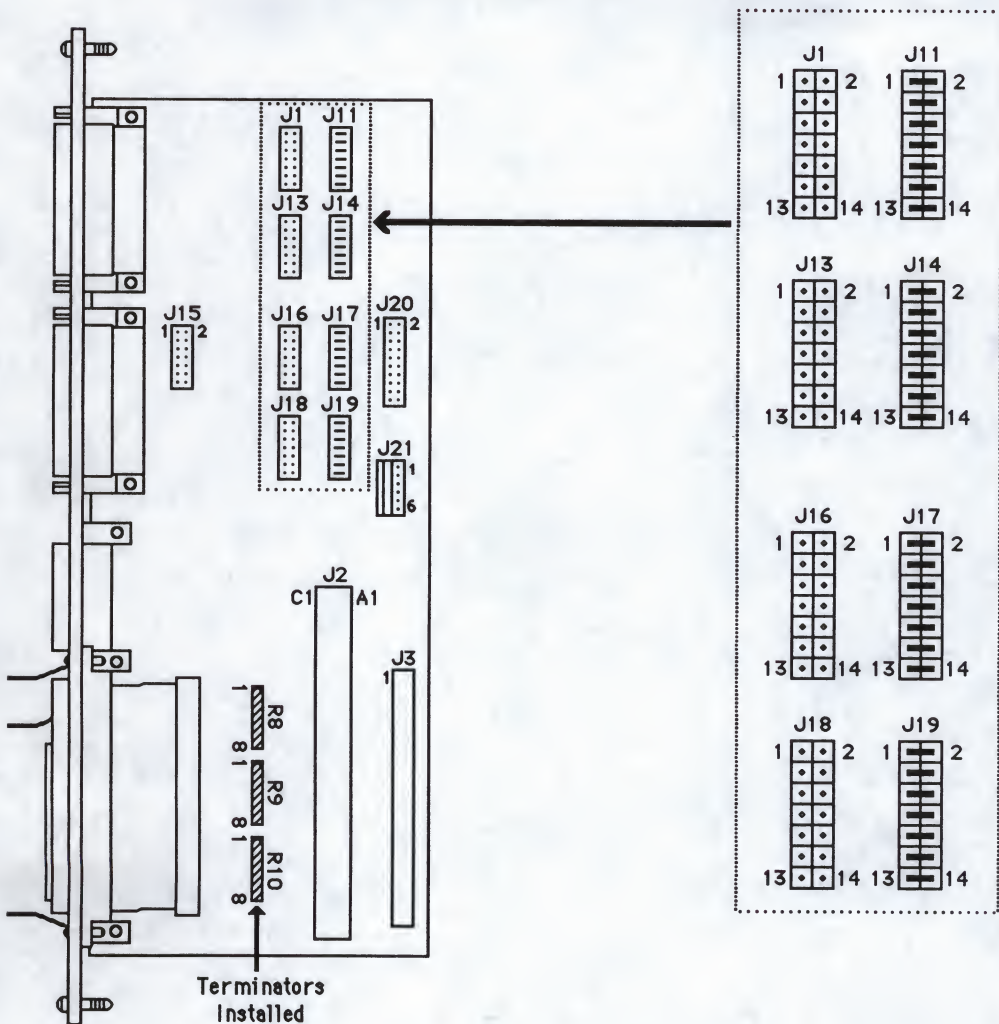


FIGURE 3



MVME712M

FIGURE 4

CHAPTER 2

MVME147KS-1-6/MVME147KSA-1-6/MVME712A/B Installation Instructions

This document supplies the necessary instructions to install the MVME147S-1 or MVME147SA-1 and the MVME712A and MVME712B boards in the 12-slot computer system (MVME955 enclosure).

The MVME147S-1 has 4Mb of onboard memory. The MVME147SA-1 has 8Mb of onboard memory.

Additional Documents

- *System Manual*
- *Standalone System Interactive Diagnostics User's Guide*

System Cautions

If there is no available slot in the card cage, or two slots in the back panel, this installation cannot be done.

Installation Instructions

System Shutdown

- a. Bring the system down as instructed in the System Manual.

CAUTION

Inserting/removing modules while power is applied may result in damage to module components.

- b. Turn the AC power off and remove the AC cord from the computer system.
- If you are also installing the Internal Modem, MVME732K-6, do so now, then continue.

MVME147S-1 or MVME147SA-1 Installation

- a. To remove the shroud, insert a stout instrument (such as a screwdriver) into the slot at the bottom center front of the base. Push up the latch release pin (inside base) and pull the shroud forward until it is removed.
- b. Remove the cable cover (P/N 15-W5286B01) from the front of the card cage by sliding the cover up then pull the bottom away from the system and sliding it down.
- c. If necessary, remove the filler panel from the first board slot.

CAUTION

Avoid touching areas of integrated circuitry; static discharge can damage these circuits.

- d. Check the jumpers on the MVME147S-1 (P/N 01-W3577B02) or the MVME147SA-1 (P/N 01-W3577B12). See Figure 1 for either board.
- e. Gently slide the new MVME147 board into slot 1 until the connectors contact the PWA bus.
- f. Line the board up in the connectors and apply pressure until a firm connection is felt.

CAUTION

Do not force the board into the backplane. If it is difficult to insert the board, remove it, start again at step "e" and follow the remaining instructions.

- g. Tighten the top and bottom screws on the board fascia.

MVME712B Installation

- a. In the rear of the system, remove two filler panels from board slots 1 and 2 (far right) for the MVME712A and MVME712B boards.
- b. If it hasn't already been done, install a terminator block on the external SCSI connector of the MVME712B panel.
- c. Install the MVME712B panel in **slot 2** and tighten the two screws. The two cables will be connected later.

MVME147P2 Board Installation

- a. Remove the three TERMINATOR SIPs from the P2 Adaptor PWB Assembly (P/N 01-W3570B01). See Figure 2.
- b. Attach the P2 mounting bracket (P/N 07-W5459B02) to the component side of the P2 Adaptor PWB Assembly, using screw, P/N 03SW990F406. Insert the screw from the non-component side of the PWB. See Figure 2.
- c. Remove the screw from the backplane located below the bottom backplane connector of slot 1. See Figure 3.
- d. Connect the P2 adaptor to the P2 (bottom) connector on the backplane at slot 1, making sure that the connectors are facing the left side of the system (as seen from the back of the backplane). See Figure 3.
- e. Install the screw that was removed in Step "c" back into the backplane. See Figure 3.
- f. Connect the P2 adaptor/transition board cable (P/N 30-W2335C02) to the P2 adaptor at J2, making sure that the red, blue, or dark grey stripe is toward the top of the system. The other end will be attached to the MVME712A board. See Figure 2.
- g. It is necessary to locate the connector on SCSI/P2/717 cable (P/N 30-W2417C01) that will be attached to the MVME147P2 Adapter board.

First, find the end connector that is approximately 18 inches away from the SECOND connector. Attach this SECOND connector to the P2 Adaptor at J3, making sure that pin 1 (dark brown stripe) is facing up. See Figure 2. The other ends will be attached to the MVME712A and any SCSI disk or tape drives in the system.

- h. Route the FIRST connector on the SCSI/P2/717 cable (located in the previous step) toward the rear of the system, and connect it to the SCSI connector coming from the MVME712B panel. Make sure that pin 1 of each connector matches.

- i. Route the opposite end of the cable up to the top drive, and then down, so that the LAST connector is near the bottom drive. These connectors will be used when installing other drives.

MVME712A Board Installation

- a. Check the strapping of the MVME712A board (P/N 01-W3587B01). See Figure 4.

NOTE

If the MVME732 has been installed on the MVME712A, J16 should have NO jumpers and J17 should have five jumpers. If the MVME732 has not been installed on the MVME712A, J17 should have NO jumpers and J16 should have five jumpers. Refer to the MVME732 Installation Instructions (Chapter 3).

- b. Install the MVME712A board into the rear panel, (being careful not to crimp the cables just installed), and tighten the top and bottom screws on the board fascia.
- c. Connect cable (P/N 30-W2335C02) to connector J11 on the MVME712A board. Make sure that the red, blue, or dark grey stripe is facing the top of the board. See Figure 4.
- d. Route the smaller cable (Ethernet) attached to the MVME712B panel, around the board edge of the MVME712A transition board and connect it to the MVME712A at J10, again making sure that pin 1 is facing the top of the board. See Figure 4.
- e. If installed, connect the modem power cable to the MVME712A at J2, making sure that pin 1 on the cable is facing the top of the MVME712A board. See Figure 4.

It may be necessary to slightly bend the 712A connector away from the PWA surface to provide cable clearance.

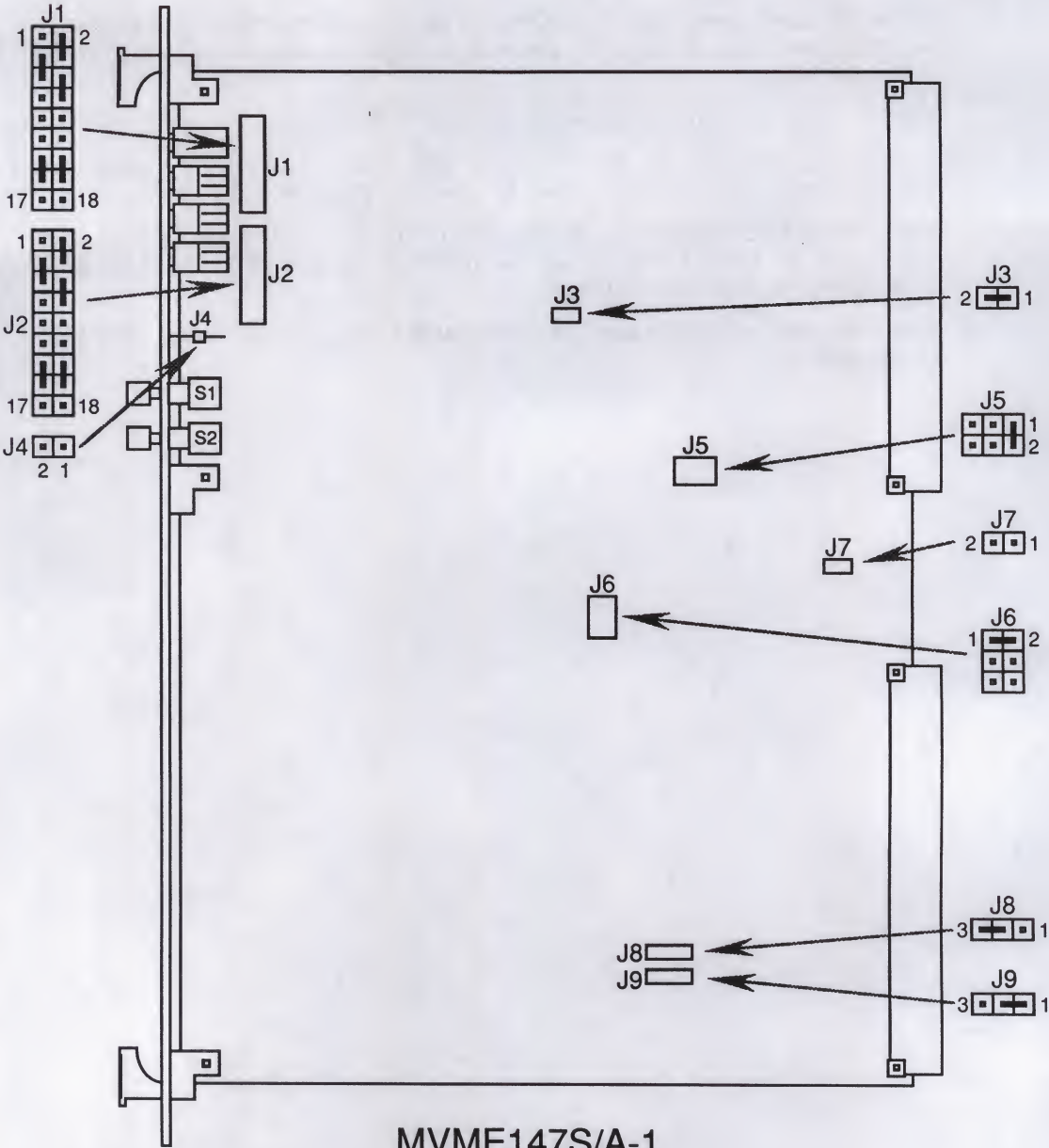
Install any new drives now, then continue.

Completion and Testing

- a. Insert the cable cover (P/N 15-W5286B01) back into the front of the card cage by sliding the cover underneath the card cage flanges and then down over the lip on the base.

NOTE: Make sure all cables are not pinched by the cover.

- b. Engage the shroud at the front of the chassis and slide it all the way toward the rear until a slight "click" is heard (as the latch locks itself into place).
- c. Mark rating label (located on the outside of the rear panel) with the product code number. Use **147KS-1** if an MVME147S-1 was installed. Use **147KSA-1** if an MVME147SA-1 was installed.
- d. Reconnect the AC power cord, turn the system on, and test using MVME147 Diagnostics.



MVME147S/A-1

FIGURE 1

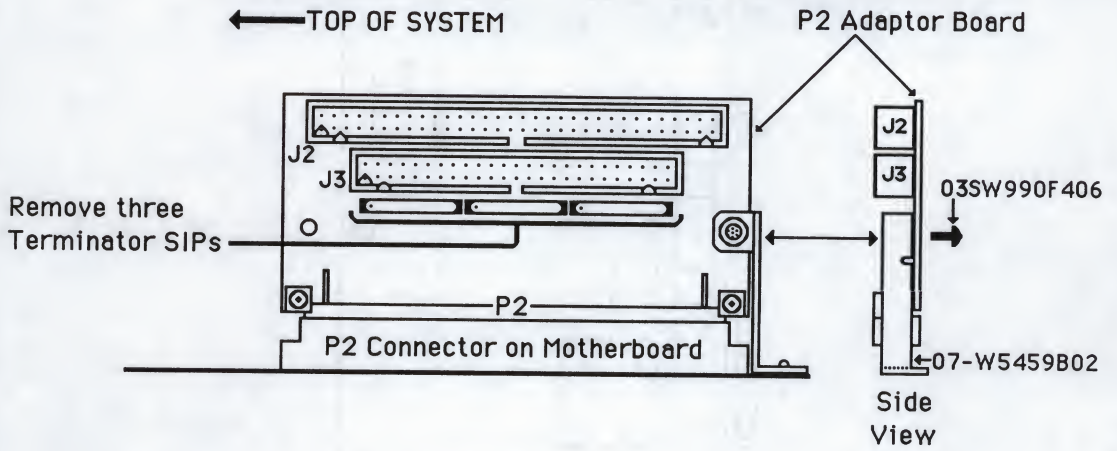


FIGURE 2

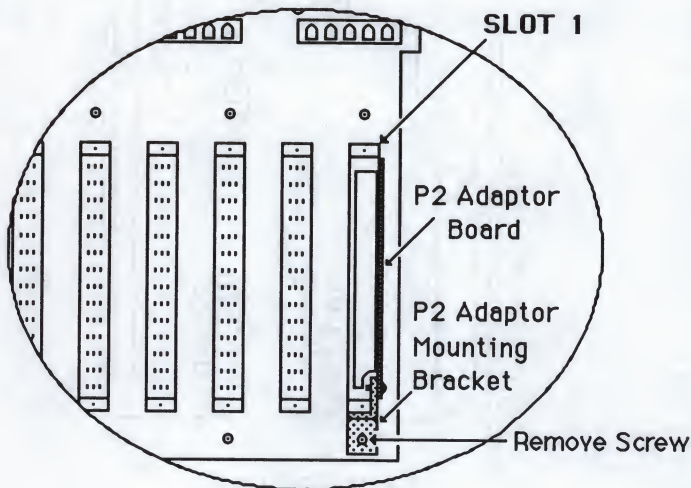


FIGURE 3

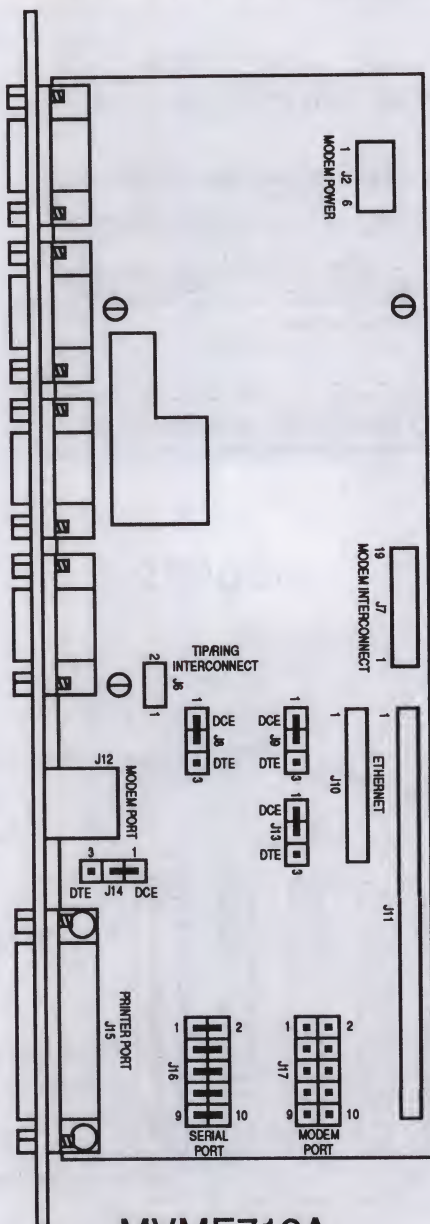


FIGURE 4

CHAPTER 3

MVME732K-6 Internal Modem Installation Instructions

This document supplies the necessary instructions to install an MVME732 Internal Modem in the 12-slot computer system (MVME955 enclosure).

Additional Documents

- *System Manual*
- *Standalone System Interactive Diagnostics User's Guide*

System Cautions

This board is installed piggy-back style on the MVME712A or MVME714M transition boards.

Installation Instructions

System Shutdown

- Bring the system down as instructed in the System Manual.

CAUTION

Inserting/removing modules while power is applied may result in damage to module components.

- Turn the AC power off and remove the AC cord from the computer system.

MVME732 Board Installation

CAUTION

Avoid touching areas of integrated circuitry; static discharge can damage these circuits.

- There is NO strapping on the MVME732 board, but it will be necessary to re-strap the MVME712A transition board.
- There is no need to re-strap the MVME714M transition board.
- a. If necessary, temporarily remove the cables connected to the MVME712A or MVME714M transition board.
- b. Remove the transition board from the rear of the system by loosening the two screws on the board fascia.
- c. Install the three standoffs, included with this kit, in the three holes of the transition board. See Figure 1 for the MVME712A. See Figure 2 for the MVME714M.
- d. Change the strapping of the MVME712A board according to Figure 1.

NOTE: The only jumper changes are on J16 and J17.

- e. Attach the MVME732 Modem Board to the standoffs on the transition board. Align the two sets of pins on the MVME732 with the two connectors (J6 and J7 on the MVME712A, and J11 and J12 on the MVME714M). Gently push the MVME732 onto the transition board until it is fully seated on the standoffs. See Figure 3 for the MVME712A. See Figure 4 for the MVME714M.
- f. Gently slide the transition board (with the MVME732 modem installed) back into its slot in the back panel, until it is fully seated, and then secure with the two screws on the board fascia.
- g. Reinsert any cables that were previously removed from the transition board, taking care to align pin 1 on the cable to pin 1 on the board.

Completion

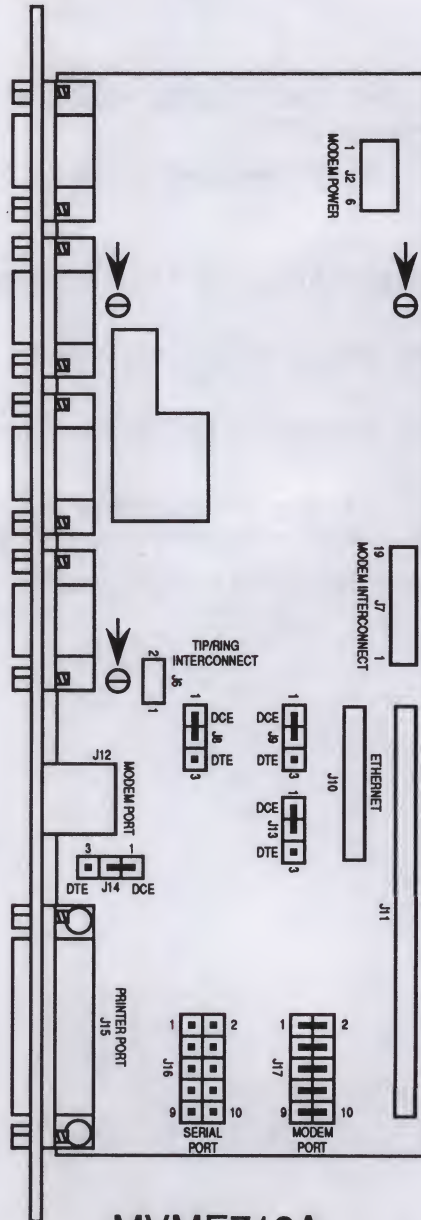
- a. Mark product code label (located on the outside of the rear panel) with the product code number, using **732K**.
- b. Reconnect the AC power cord, then turn the system on.

Testing

No test is specifically designed for testing the installed modem, but the following procedure may be used:

- a. Connect the modular plug of an operating telephone line into the "TELCO" jack on the modem.
- b. Follow the procedure described in the *Standalone System Interactive Diagnostics (SSID) User's Guide*.
 - Perform a remote link using the modem as described under "The Remote Command" in the *System Commands* chapter of MD41955SID.

NOTE: This procedure requires a remote terminal with a 2400 bps modem.



MVME712A

FIGURE 1

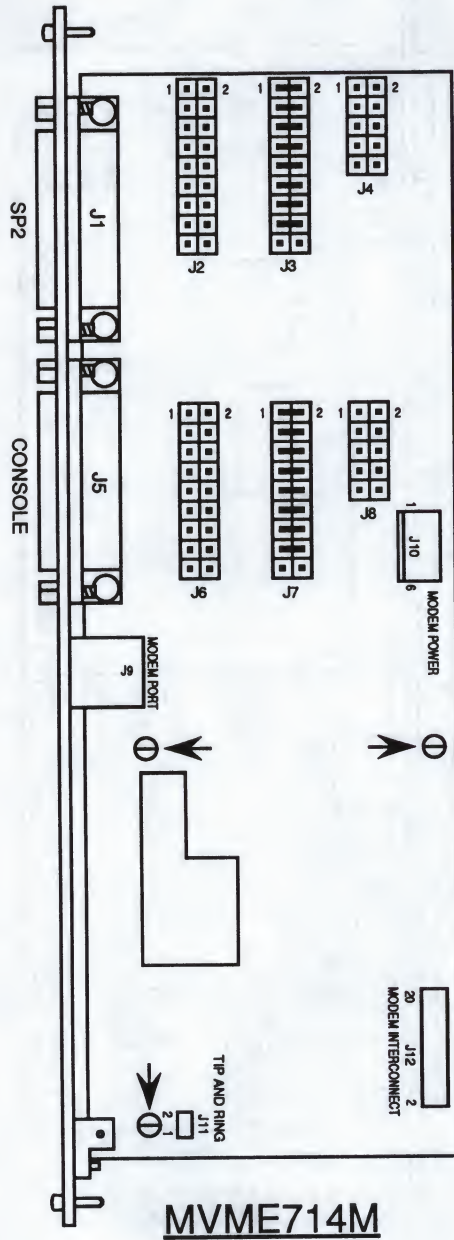
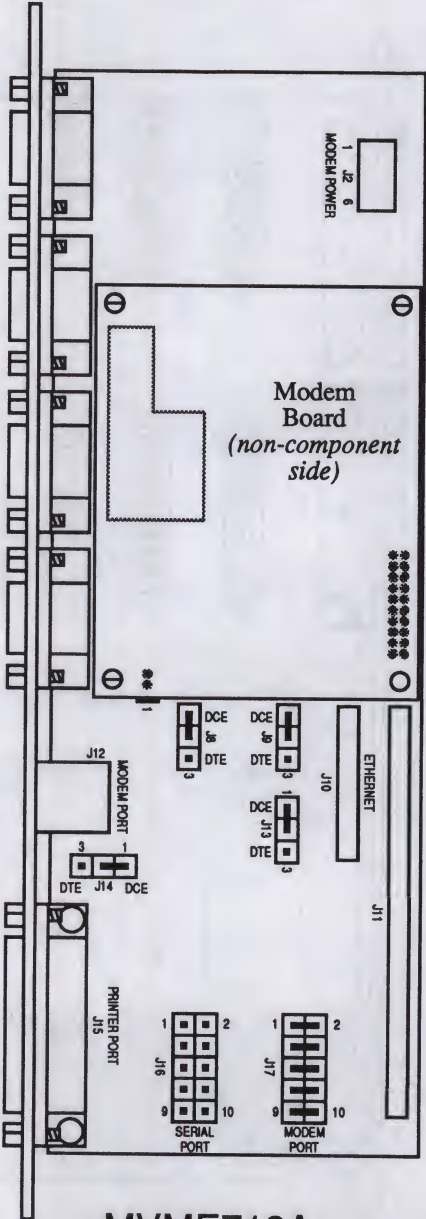


FIGURE 2



MVME712A

FIGURE 3

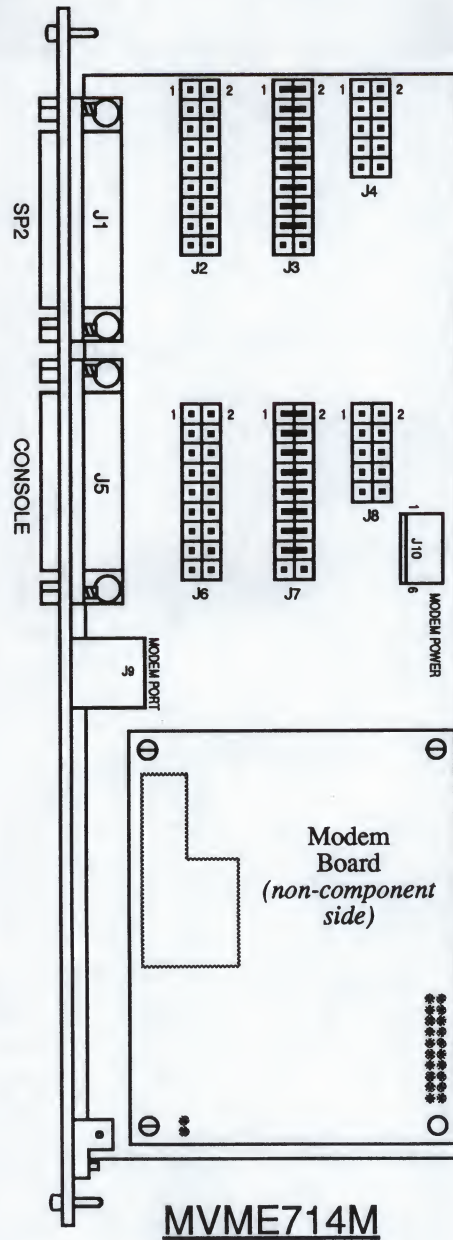


FIGURE 4

CHAPTER 4

Communications Boards Installation Instructions

This document supplies the necessary instructions to install a variety of communications boards (MVME333X25, MVME374, or MVME393) and transition boards/assemblies (MVME705A, MVME705B, VMELAN, or MVME792-2) in the 12-slot computer system (MVME955 enclosure).

Additional Documents

- *System Manual*
- *Standalone System Interactive Diagnostics User's Guide*

System Cautions

If there is no available slot in the card cage or appropriate slots in the back panel, this installation cannot be done.

Installation Instructions

System Shutdown

- a. Bring the system down as instructed in the System Manual.

CAUTION

Inserting/removing modules while power is applied may result in damage to module components.

- b. Turn the AC power off and remove the AC cord from the computer system.

Chassis Preparation

- a. To remove the shroud, insert a stout instrument (such as a screwdriver) into the slot at the bottom center front of the shroud. Push up the latch release pin and pull the shroud forward until it is removed.
- b. Remove the cable cover (P/N 15-W5286B01) from the front of the card cage by sliding the cover up then pull the bottom away from the system and sliding it down.

Communications Board Installation

CAUTION

Avoid touching areas of integrated circuitry; static discharge can damage these circuits.

- a. Check the strapping and/or switch settings of the communications board according to which board it is. See Figure 1 for the MVME333X25, Figure 2 for the MVME374, and Figure 3 for the MVME393.
- b. Remove the filler panel from the appropriate board slot. For board location, see Board Placement Chart.

NOTE: Other boards in the system may have to be moved to allow space for the new communication board(s).

- c. Remove the jumpers on the backplane from the slot in which the new board is to be installed. These jumpers are located on the back side of the backplane, just to the left of each top connector. If a board was removed to accommodate the additional communications board, the jumpers must also be removed from the slot into which this board will be moved.

NOTE

If an MVME393 board is being installed, remove the "TACK" jumper only. This is the bottom jumper below the other four. The other four jumpers must remain in place. See Figure 4.

- d. Gently slide the new communications board into the slot until the connectors contact the PWA bus.
- e. Line the board up in the connectors and apply pressure until a firm connection is felt.

CAUTION

Do not force the board into the connectors. If it is difficult to insert, remove it, start again at step "d" and follow the remaining instructions.

- f. Tighten the top and bottom screws on the board fascia.
 - Skip the following step for MVME374 board installation.
- g. Attach the cable (P/N 30-W2799B01 for the MVME333X25 or P/N 30-W2991B02 for the MVME393) to the P2 (lower) connector on the backplane located at the slot in which the new communications board was just installed, making sure that the red, blue, or dark grey stripe is toward the top of the motherboard. The other end will be attached to the transition board.

MVME705A/B or MVME792-2 Transition Board Installation

- a. Check the strapping of the new transition board. See Figure 5 for the MVME705A, making sure that the cables coming from the board fascia are connected to P3, P5, P7, P9, P11, and P13. See Figure 6 for the MVME705B, making sure that the cables coming from the board fascia are connected to P9, P11, and P13. See Figure 7 for the MVME792-2.
- b. In the rear of the system, remove the filler panel(s) from the appropriate board slot(s). For board location, see Board Placement Chart.
- c. Insert the new transition board into the rear of the system (making sure it is oriented correctly), and tighten the screws to hold the new board in place.
- d. Attach the other end of the cable (previously installed) to the connector on the back of the transition board, again making sure that the red, blue, or dark grey stripe is toward the top of the board.

MVMELAN Assembly Installation

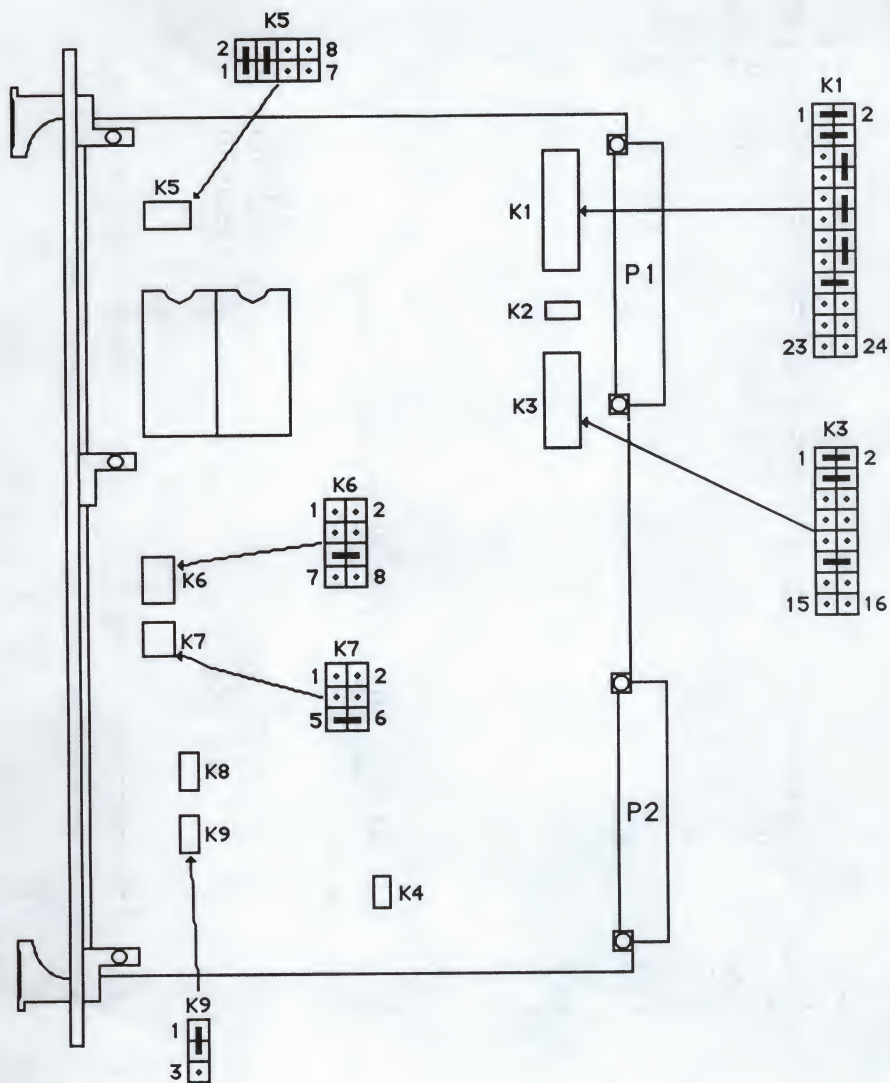
- a. In the rear of the system, remove the filler panel from the appropriate board slot. For location, see Board Placement Chart.
- b. Insert the cable assembly (30-W2822B01) into the rear panel and tighten the top and bottom screws on the cable assembly fascia.
- c. Route the cable toward the front of the card cage and connect the cable to the front of the MVME374 LAN board as shown in Figure 2.

Completion and Testing

- a. Insert the cable cover (P/N 15-W5286B01) back into the front of the card cage by sliding the cover underneath the card cage flanges and then down over the lip on the base.

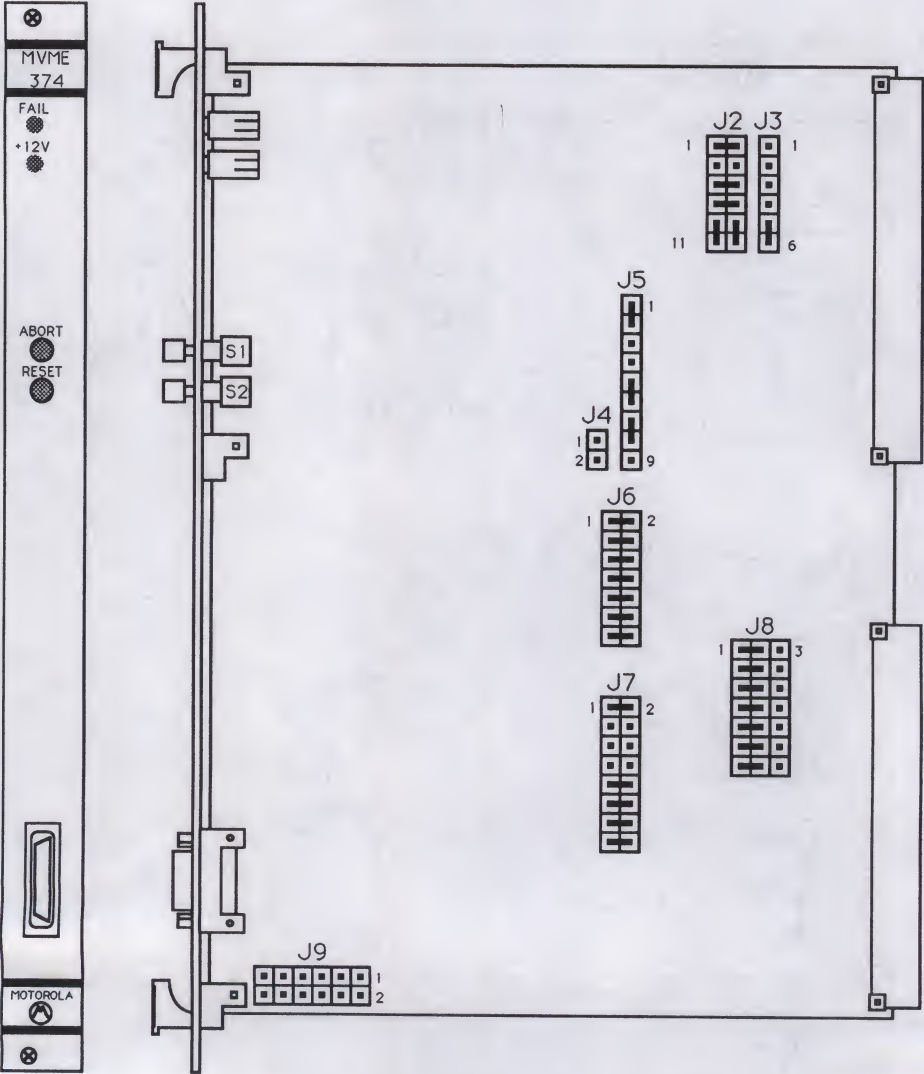
NOTE: Make sure the cables are not pinched by the cover.

- b. Slide the shroud all the way on the system until a slight "click" is heard as it locks itself into place.
- c. Mark product code label, located on the outside of the rear panel, with the product code number. Use **333KX25** if an MVME333X25 was installed. Use **374K** if an MVME374 was installed. Use **393K** if an MVME393 was installed.
- d. Reconnect the AC power cord, turn the system on, and test using MVME147 Diagnostics.

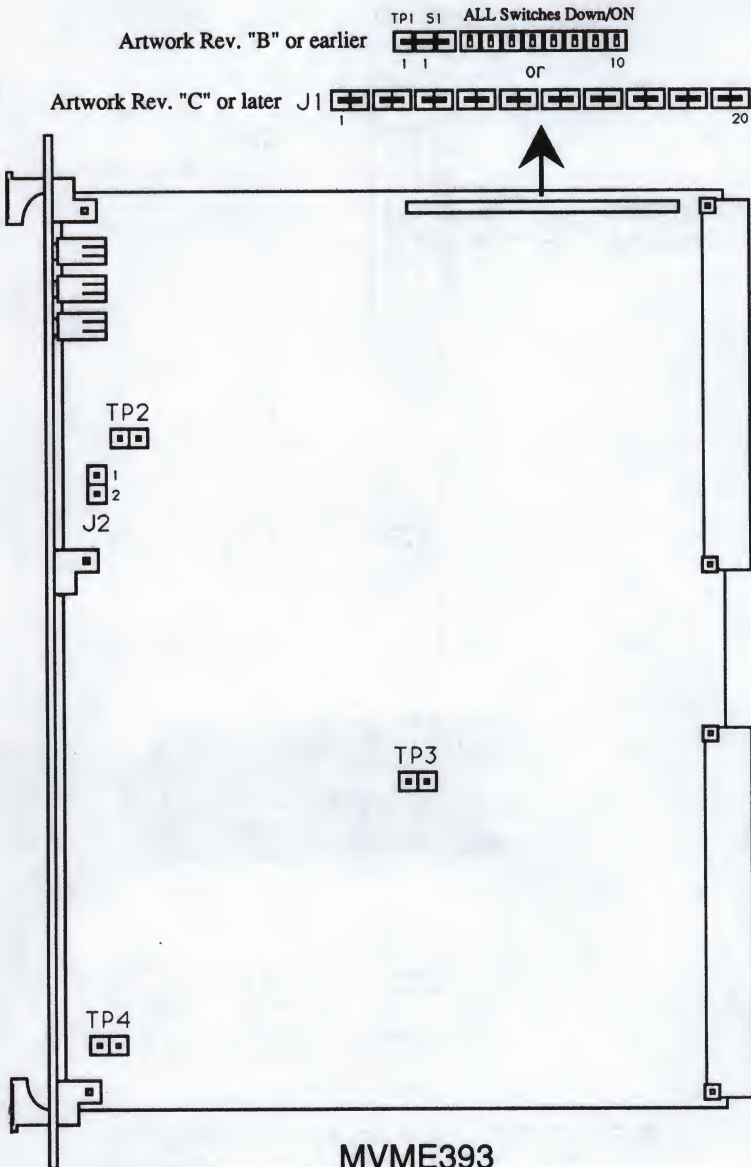


MVME333X25

FIGURE 1

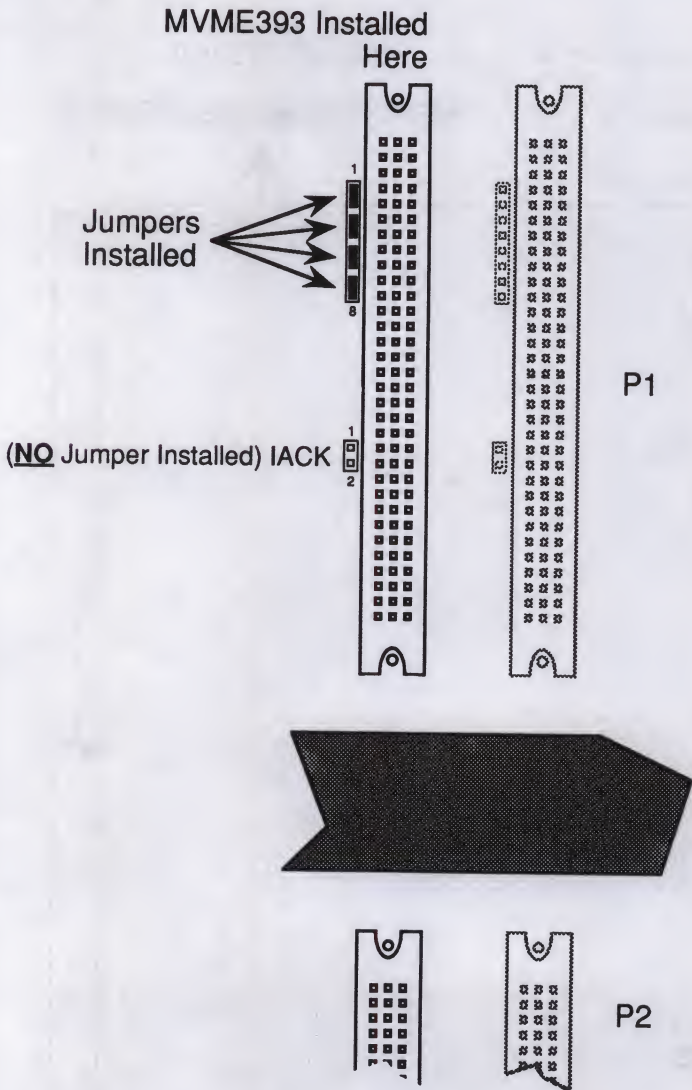


MVME374
FIGURE 2



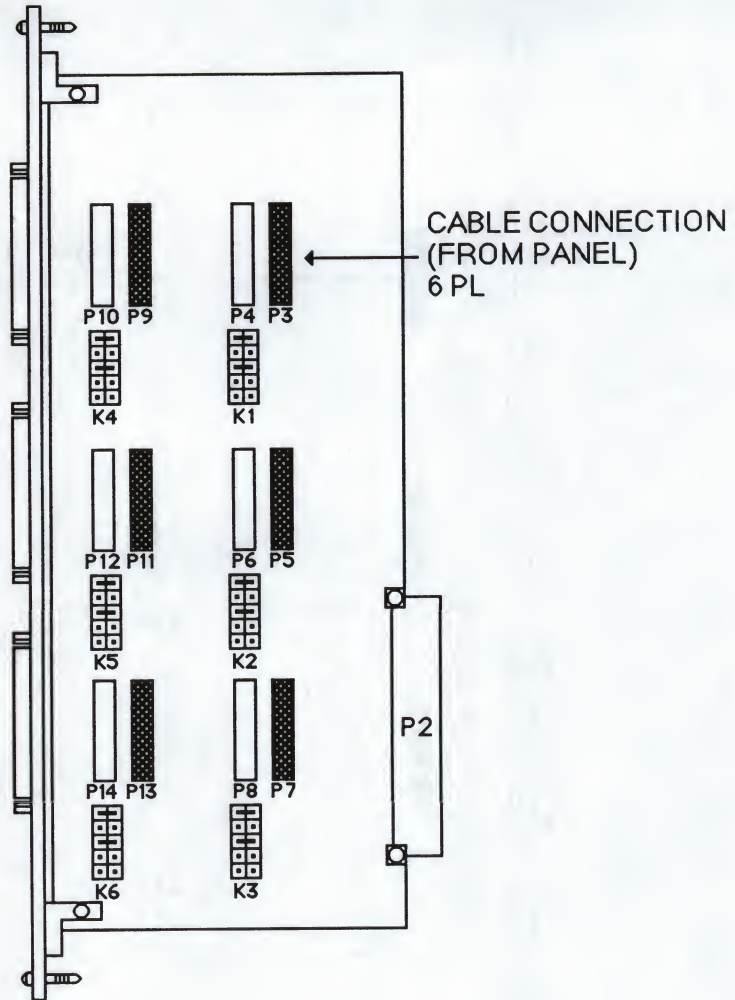
MVME393

FIGURE 3



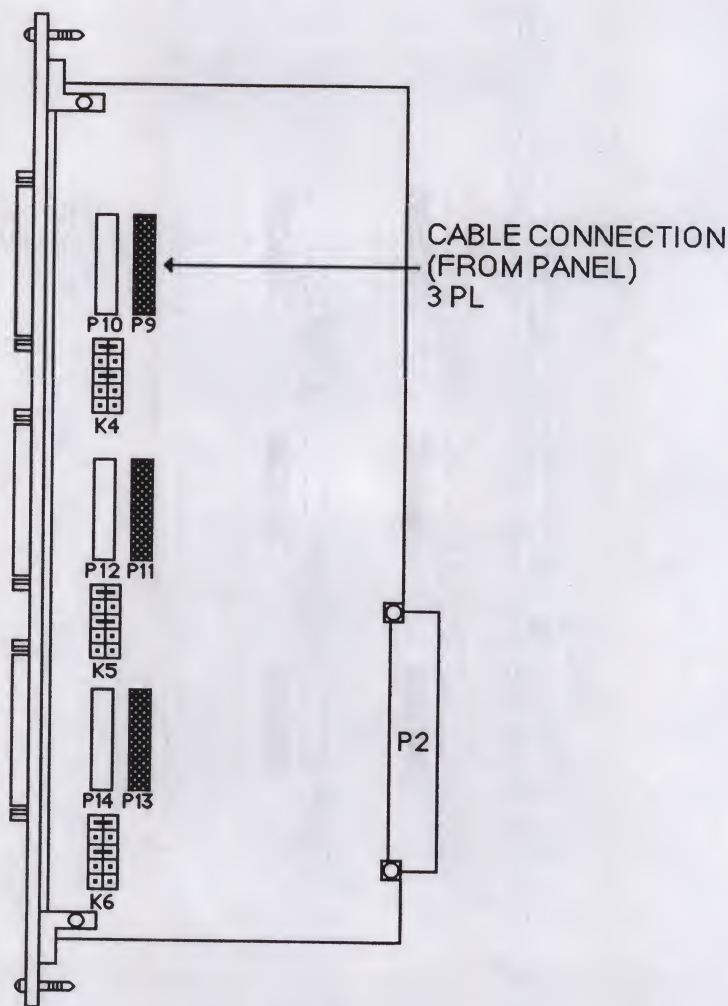
BACKSIDE OF MOTHERBOARD

FIGURE 4



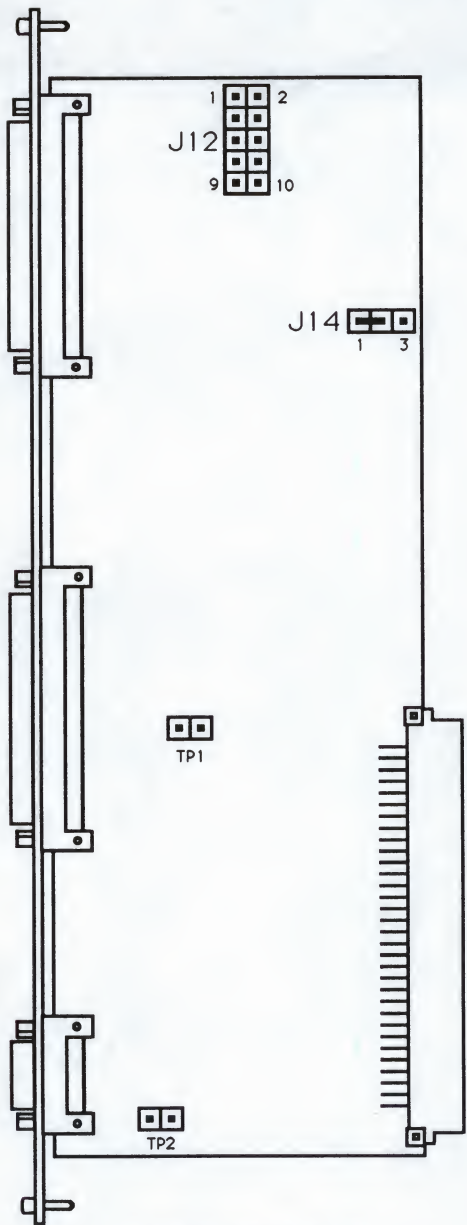
MVME705A

FIGURE 5



MVME705B

FIGURE 6



MVME792-2

FIGURE 7

CHAPTER 5

MVME327KA-6 Installation Instructions

This document supplies the necessary instructions to install the MVME327A and the MVME717 boards in the 12-slot computer system (MVME955 enclosure).

Additional Documents

- *System Manual*
- *Standalone System Interactive Diagnostics User's Guide*

System Cautions

If there is no available slot in the card cage, or in the back panel, this installation cannot be done.

Installation Instructions

System Shutdown

- a. Bring the system down as instructed in the System Manual.

CAUTION

Inserting/removing modules while power is applied may result in damage to module components.

- b. Turn the AC power off and remove the AC cord from the computer system.

Chassis Preparation

- a. To remove the shroud, insert a stout instrument (such as a screwdriver) into the slot at the bottom center front of the shroud. Push up the latch release pin and pull the shroud forward until it is removed.
- b. Remove the cable cover (P/N 15-W5286B01) from the front of the card cage by sliding the cover up then pull the bottom away from the system and sliding it down.
- c. Remove the filler panel from the appropriate board slot. See the Board Placement Charts.

NOTE: Other boards in the system may have to be moved to allow space for the new MVME327A board.

MVME327A Board Installation

CAUTION

Avoid touching areas of integrated circuitry; static discharge can damage these circuits.

- a. Check the jumpers on the MVME327A (P/N 01-W3550B01). Remove the terminators from R17, R18, and R19. See Figure 1.
- b. Remove the jumpers on the backplane from the slot in which the new board is to be installed. These jumpers are located on the back side of the backplane, just to the left of each top connector. If a board was removed to accommodate the additional board, the jumpers must also be removed from the slot into which this board will be moved.
- c. Gently slide the new MVME327A board into the slot until the connectors contact the PWA bus.
- d. Line the board up in the connectors and apply pressure until a firm connection is felt.

CAUTION

Do not force the board into the backplane. If it is difficult to insert the board, remove it, start again at step "c" and follow the remaining instructions.

- e. Tighten the top and bottom screws on the board fascia.

P2 Adapter and MVME717 Transition Board Installation

- a. In the rear of the system, remove the filler panel from the appropriate board slot. For board location see Board Placement Chart.
- b. Connect the P2 adaptor (P/N 01-W3544B01) to the P2 (bottom) connector on the backplane at the slot in which the MVME327A was installed, making sure that the connectors are facing the front of the system. See Figure 2.
- c. Remove the terminator resistor packs from the MVME717 (P/N 01-W3543B01) at locations R1 and R2. See Figure 4.
- d. Insert the MVME717 transition board into the rear of the system (making sure it is oriented correctly), and tighten the screws to hold the new board in place.
- e. Install the terminator block on the external SCSI connector of the MVME717 board. See Figure 4.

Cabling

- a. It is necessary to locate the connector on the SCSI/P2/717 cable (P/N 30-W2417C01) that will be attached to the MVME717 transition board.

Find the end connector that is approximately 18 inches away from the SECOND connector. Attach this end connector to J3 on the MVME717 transition board, making sure that pin 1 (dark brown stripe on cable) is facing up. See Figure 4.

- b. Attach the SECOND connector on the SCSI/P2/717 cable to J1 on the P2 adaptor board. Make sure that pin 1 (dark brown stripe on cable) is facing up. See Figure 3.
- c. Route the remainder of the cable up to the top drive, and then down, so that the LAST connector is near the bottom drive. These connectors will be used when installing other drives.

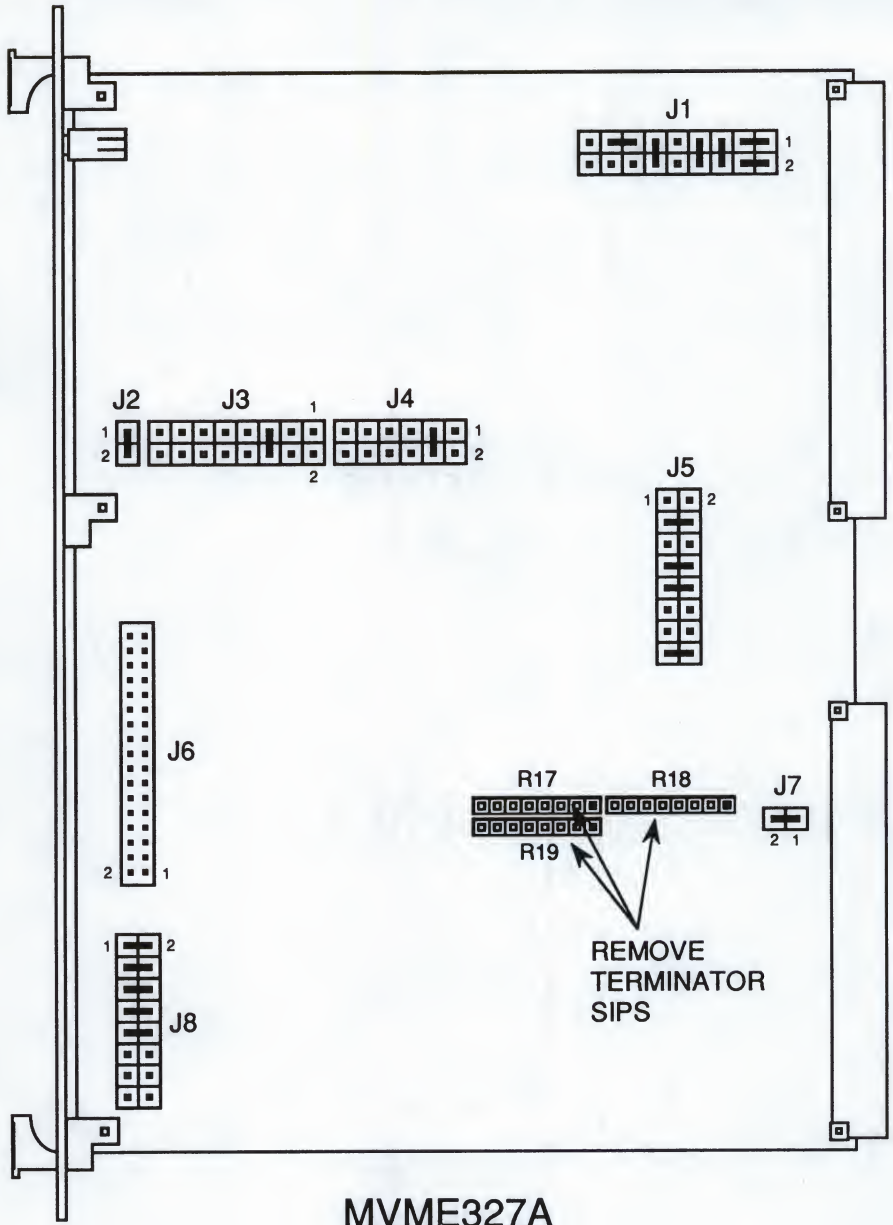
If the MVME883K-6 Floppy is to be installed, do so now, then return to this document.

Completion and Testing

- a. Insert the cable cover (P/N 15-W5286B01) back into the front of the card cage by sliding the cover underneath the card cage flanges and then down over the lip on the base.

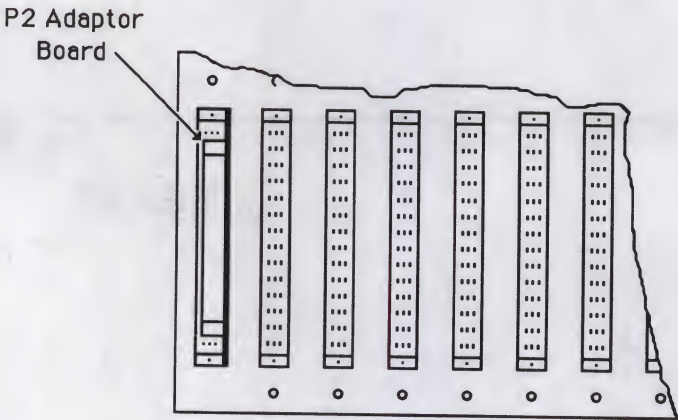
NOTE: Make sure all cables are not pinched by the cover.

- b. Slide the shroud all the way forward until a slight "click" is heard as it locks itself into place.
- c. Mark rating label, located on the outside of the rear panel, with the product code number, using **327KA**.
- d. Reconnect the AC power cord, turn the system on, and test using MVME327A Diagnostics.



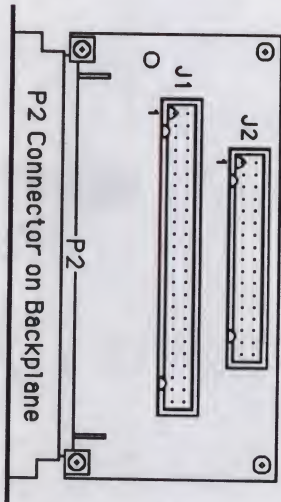
MVME327A

FIGURE 1

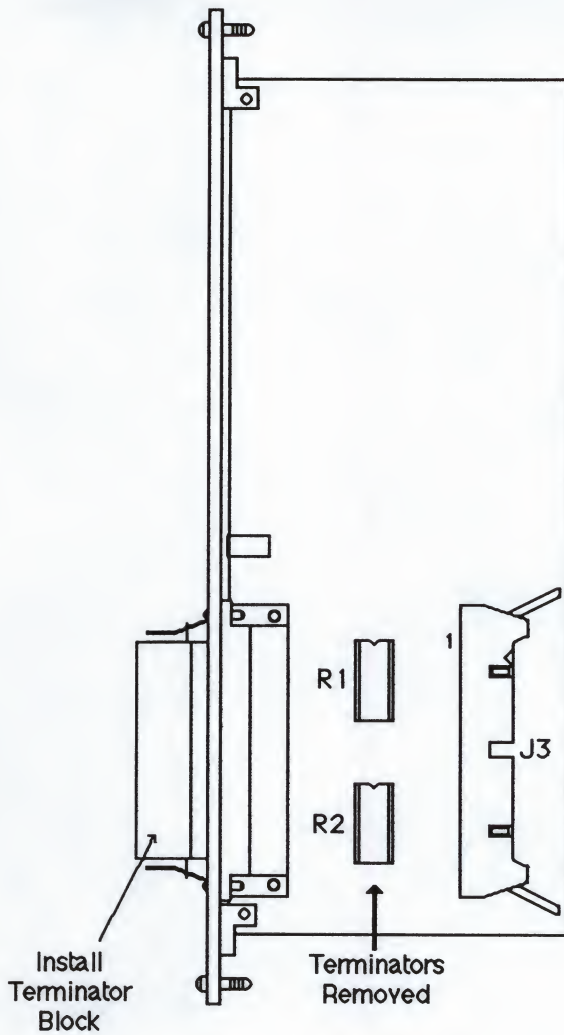


P2 ADAPTER
and BACKPLANE

FIGURE 2



P2 ADAPTER
FIGURE 3



MVME717

FIGURE 4



CHAPTER 6

SCSI Tape Drives and SCSI Disk Drives Installation Instructions

This document supplies the necessary instructions to install a SCSI Disk or Tape Drive (MVME852K, 60Mb Streaming Tape Drive; MVME853K, 150Mb Streaming Tape Drive; MVME856K, 2Gb 8mm Cartridge Tape Subsystem; MVME873, 85Mb Winchester Disk Drive; MVME874, 150Mb Winchester Disk Drive; MVME875K, 300Mb Winchester Disk Drive; MVME876K, 600Mb Winchester Disk Drive) in the 12-slot computer system (MVME955 enclosure).

NOTE

It is necessary to identify the chassis for which this installation is to be performed. To do this, find the "product code" label on the rear of the system. The top line will identify this chassis. The chassis part numbers will either be 01-W1365Bxxx, or 01-W1387Bxxx.

Additional Documents

- *System Manual*
- *Standalone System Interactive Diagnostics User's Guide*

System Cautions

The SCSI Drive is a delicate device. Use caution when handling.

This system supports ONLY the following combinations of removable media drives:

- Two Streaming Tapes
- Two Streaming Tapes and One Floppy (MVME881)
- One Streaming Tape and One 2Gb Tape Subsystem
- One Streaming Tape and One Floppy (MVME881)
- One Streaming Tape, One Floppy (MVME883), and One 2Gb Tape Subsystem

Installation Instructions

System Shutdown

- a. Bring the system down as instructed in the System Manual.

CAUTION

Inserting/removing modules while power is applied may result in damage to module components.

- b. Turn the AC power off and remove the AC cord from the computer system.

Chassis Preparation

- a. To remove the shroud, insert a stout instrument (such as a screwdriver) into the slot at the bottom center front of the shroud. Push up the latch release pin and pull the shroud forward until it is removed.

CAUTION

Avoid touching areas of integrated circuitry; static discharge can damage these circuits.

SCSI Streaming Tape Drive Installation (MVME852/MVME853)

- a. Check the strapping of the new SCSI tape drive according to the drive number it is going to be used as. See Figure 1.

NOTE: Both the 60 and 150Mb drives look the same, so the strapping is the same. Strap the FIRST (bottom) drive as 4, and the SECOND (top) drive as 5.

The terminator resistor packs MUST NOT be installed on any of these drives.

- If you are installing the FIRST streaming tape drive, continue at *Installing the First Streaming Tape Drive...*
- If you are installing the SECOND streaming tape drive, continue at *Installing a Second Streaming Tape Drive...*

Installing the First Streaming Tape Drive in Chassis 01-W1365Bxxx

If you are also installing a second streaming tape, go directly to *Installing a Second Streaming Tape Drive in Chassis 01-W1365Bxxx*.

- a. Gently slide the drive/cradle assembly into the top drive slot until the drive mounting bracket flanges of the cradle contact the flanges in the drive assembly. Tighten the mounting screws on either side of the drive/cradle assembly.
- b. Continue with either *Installing a Second Streaming Tape Drive...* or *Cabling of all Drives*.

Installing the First Streaming Tape Drive in Chassis 01-W1387Bxxx

- a. Locate the NEW streaming tape drive, and remove the four screws securing it to the cradle. Discard the cradle assembly. Retain the four screws.
- b. Install the new streaming tape drive in the appropriate drive slot (according to the SCSI drive Placement Chart). Secure the drive by installing the four screws (saved from the previous step) on either side of the drive assembly. See Figure 3.
- c. Continue with either *Installing a Second Streaming Tape Drive...* or *Cabling of all Drives*.

Installing a Second Streaming Tape Drive in Chassis 01-W1365Bxxx

- a. If it hasn't already been done, remove the SCSI cable and power cable from the first streaming tape drive.
- b. Remove the first drive/cradle assembly from the top drive position by loosening the two screws on either side of the cradle.
- c. Locate the NEW streaming tape drive (addressed 5, see Figure 1), and remove the four screws securing it to the cradle. Discard the screws and cradle assembly.
- d. Remove the two side plates by removing the two screws each. **SAVE THE SCREWS.** Discard the side plates.
- e. Attach the new streaming tape drive to the top of the first drive (addressed 4, see Figure 1) by securing with the four screws from the previous step.

NOTE: The adaptor plates are already installed on the first drive. See Figure 2.

- f. Gently slide the drive assembly back into the top drive slot until the drive mounting bracket flanges contact the flanges in the drive assembly. Tighten the mounting screws on either side of the drive mounting brackets.

Installing Second Streaming Tape Drive in Chassis 01-W1387Bxxx

- a. Locate the NEW streaming tape drive, and remove the four screws securing it to the cradle. Discard the cradle assembly. Retain the four screws.
- b. Install the new streaming tape drive above the first drive by securing with the four screws from the previous step. See Figure 3.

SCSI 8mm Cartridge Tape Drive and Winchester Disk Drive Installation

- a. Check the strapping of the new SCSI 8mm cartridge tape drive or winchester disk drive, according to the drive number it is going to be used as.

See Figure 4 for the 2Gb 8mm cartridge tape drive. See Figure 5 for the 85Mb disk drive. See Figure 6 for the 150Mb disk drive. See Figure 7 for the 300Mb disk drive. See Figure 8 for the 600Mb disk drive.

NOTE

The terminator resistor packs **MUST** be installed on the **FIRST** Winchester drive **ONLY**. Remove the terminator(s) from **ALL** other drives.

Use the following step for installation in chassis 01-W1365Bxxx **ONLY**

- b. Gently slide the drive/cradle assembly into the appropriate drive slot (according to the SCSI Drive Placement Chart) until the drive mounting bracket flanges contact the flanges in the drive assembly. Tighten the mounting screws on either side of the drive mounting brackets.

Use the following **TWO** Steps for installation in chassis 01-W1387Bxxx **ONLY**

- c. Locate the **NEW** drive, and remove the four screws securing it to the cradle. Discard the cradle assembly. Retain the four screws.
- d. Install the new drive in the proper position (according to the Drive Placement Chart) by securing with the four screws from the previous step. See Figure 3.

Cabling of All Drives

- a. Attach the SCSI cable (coming from the P2 adaptor of the MVME147 or MVME327A) to the SCSI connector on the drive(s); locate pin 1 on the cable toward pin 1 on the drive.

NOTE: Pin 1 is to the left on the MVME852 and MVME853. Pin 1 is to the right on all the other drives. See Figure 1, 4, 5, 6, 7, or 8.

- b. Connect the power cable, coming the cable harness in the system, into the power connector on the drive(s). See Figure 1, 4, 5, 6, 7, or 8.

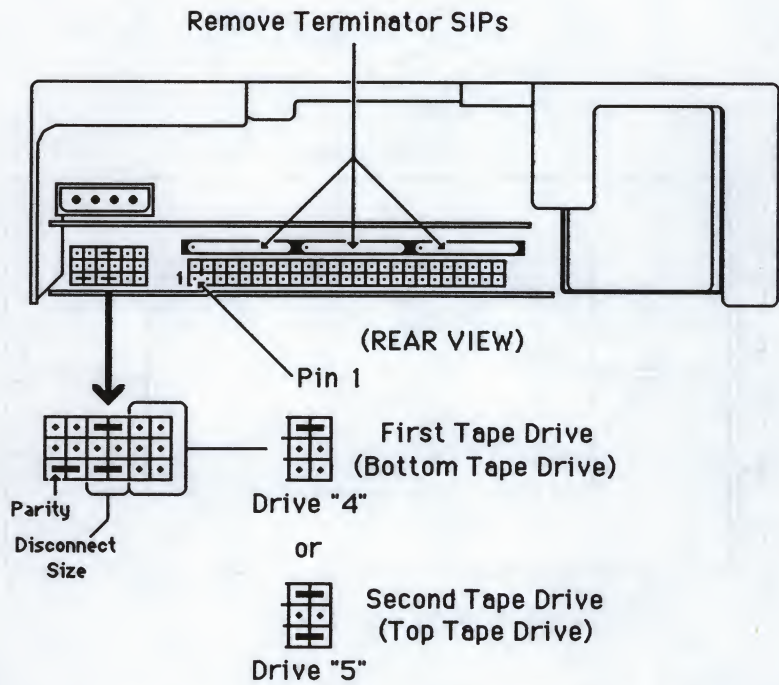
Shroud Drive Plate Installation for MVME852, MVME853, and MVME856

- a. Remove the eight screws holding the drive plate to the front plastic bezel, which is mounted to the shroud. See Figure 9.
- b. Attach the appropriate drive plate to the plastic bezel with the new screws (P/N 03SW994E609).
 - Use drive plate 64-W5304B04 if there is ONLY a single drive in the top position.
 - Use drive plate 64-W5304B08 if there are ONLY TWO drives in the top position.
 - Use drive plate 64-W5304B05 if there is a single drive in the top drive position AND a 2Gb drive in the second position.
 - Use drive plate 64-W5304B09 if there are TWO drives in the top drive position AND a 2Gb drive in the second position.

Make sure that the flange on the new drive plate is mounted upward and on the left side. See Figure 9.

Completion and Testing

- a. Slide the shroud all the way forward until a slight "click" is heard as it locks itself into place.
- b. Mark product code label, located on the outside of the rear panel, with the product code number. Use **852K** if an MVME852K was installed. Use **853K** if an MVME853K was installed. Use **856K** if an MVME856K was installed. Use **873K** if an MVME873 was installed. Use **874K** if an MVME874 was installed. Use **875K** if an MVME875K was installed. Use **876K** if an MVME876K was installed.
- c. Reconnect the AC power cord, turn the system on, and test using Diagnostics.



60/150 Mbyte SCSI Streaming Tape Drive

FIGURE 1

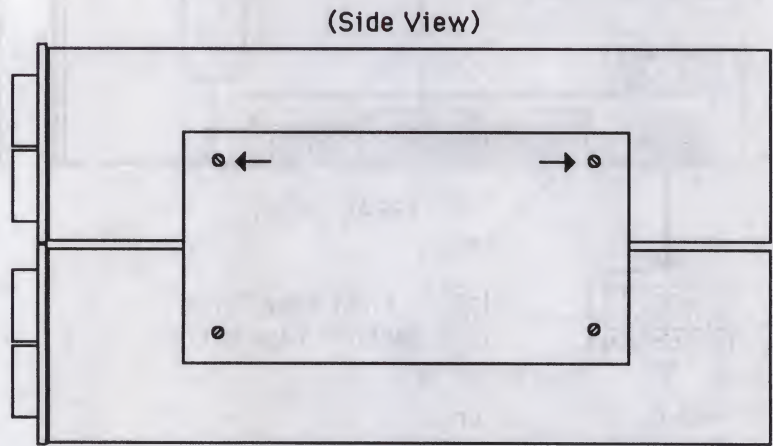


FIGURE 2

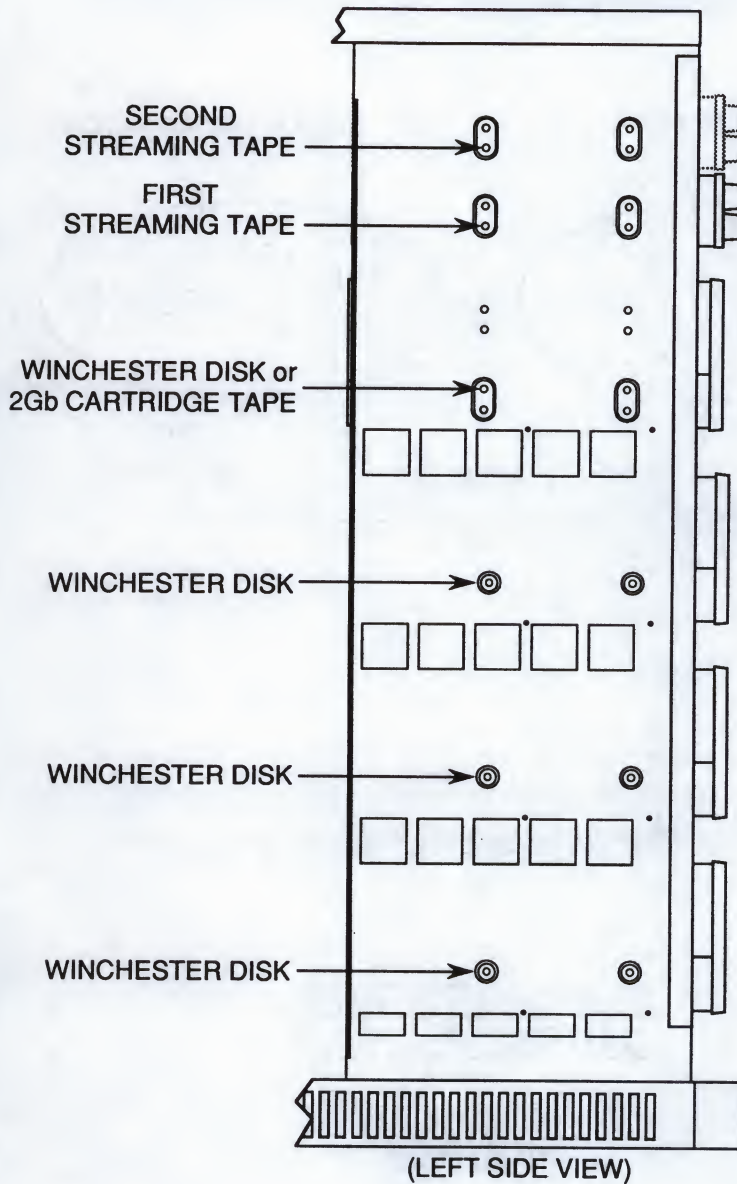
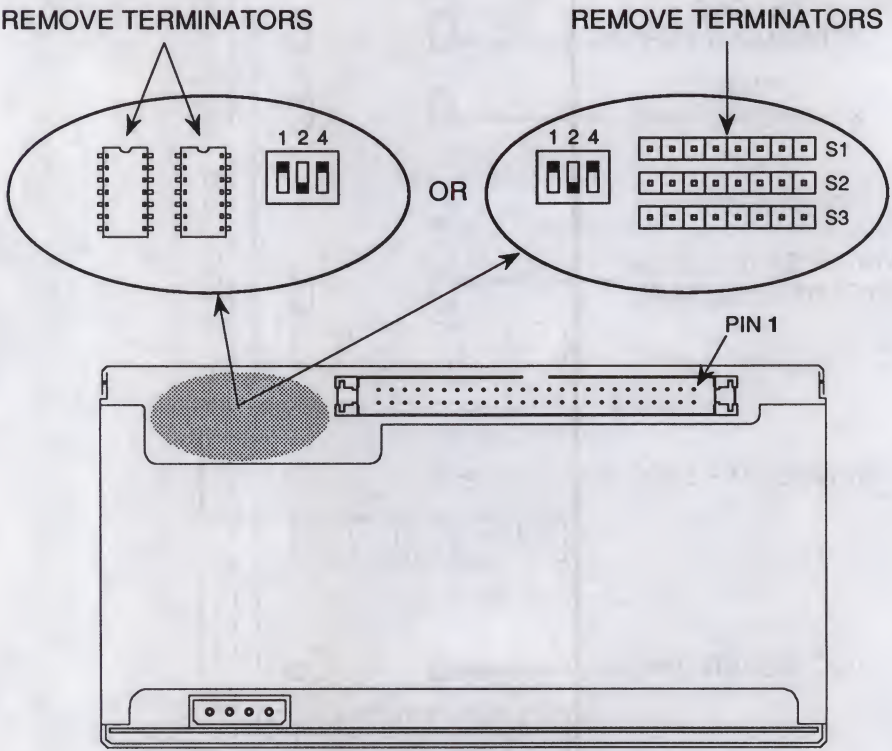
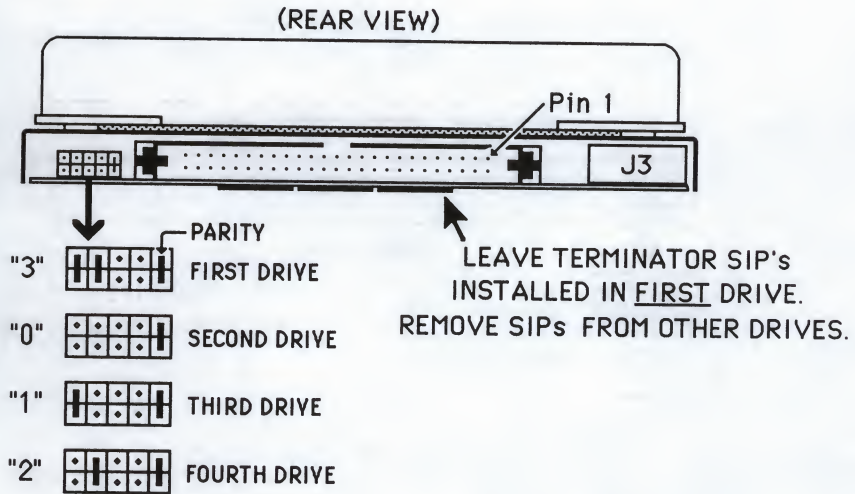


FIGURE 3



2 Gbyte SCSI TAPE
CARTRIDGE DRIVE

FIGURE 4



85 Mbyte SCSI Winchester Disk Drive

FIGURE 5

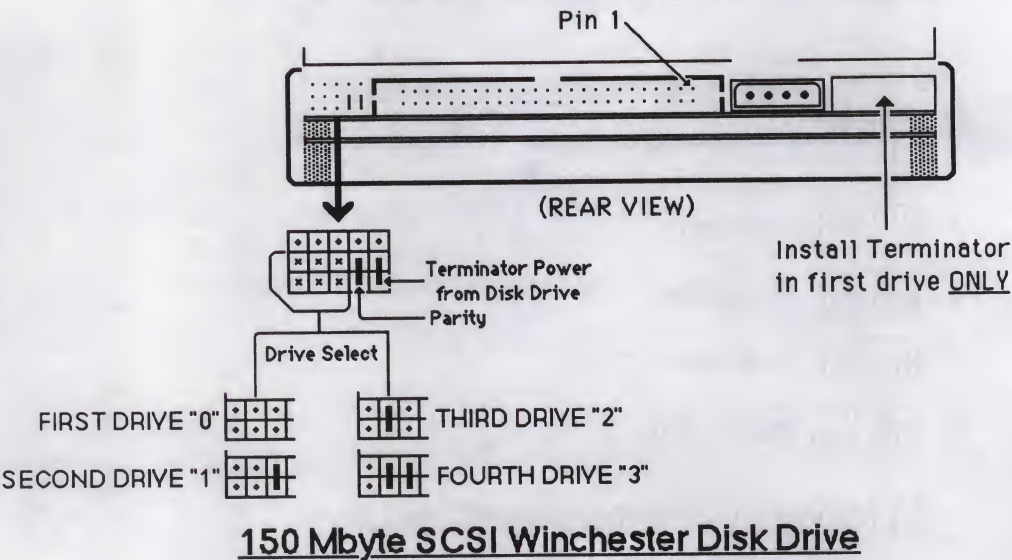


FIGURE 6

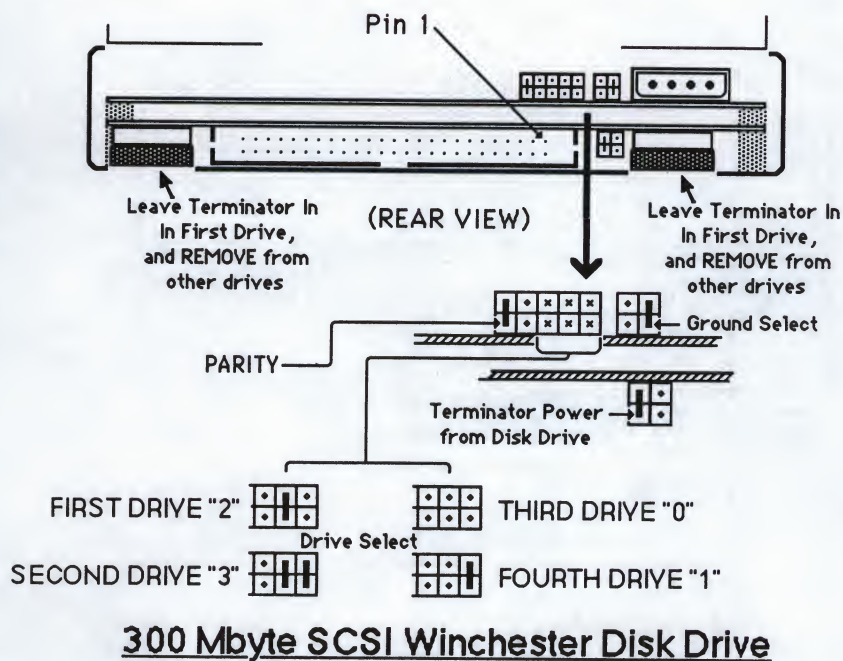
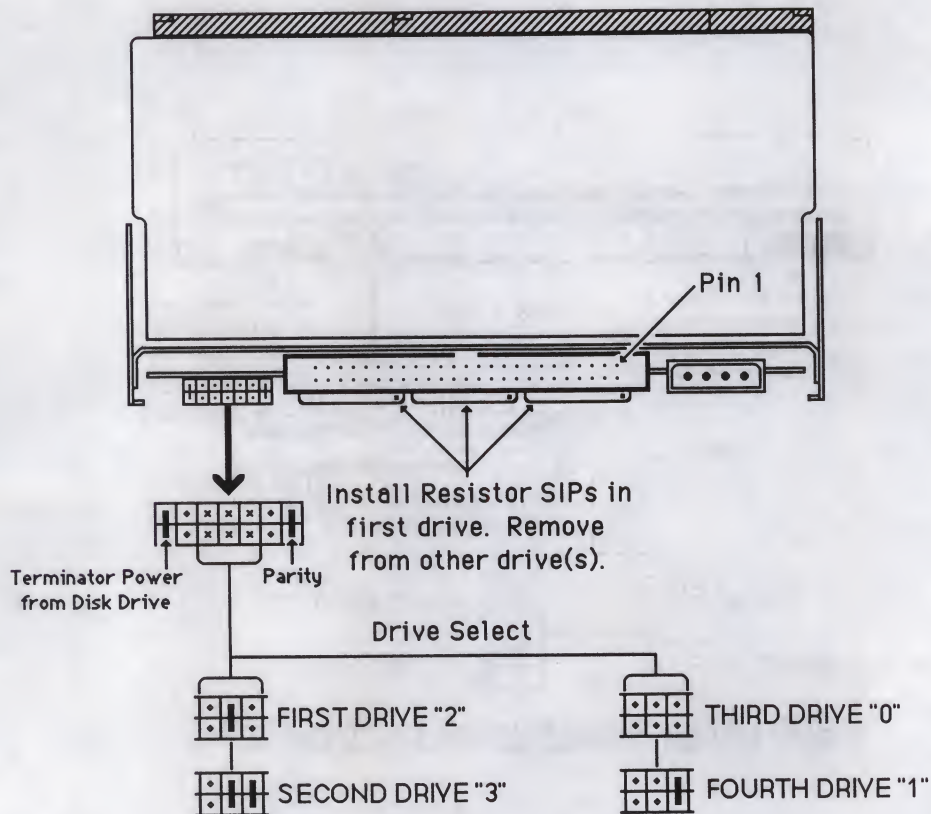


FIGURE 7



600 Mbyte SCSI Winchester Disk Drive

FIGURE 8

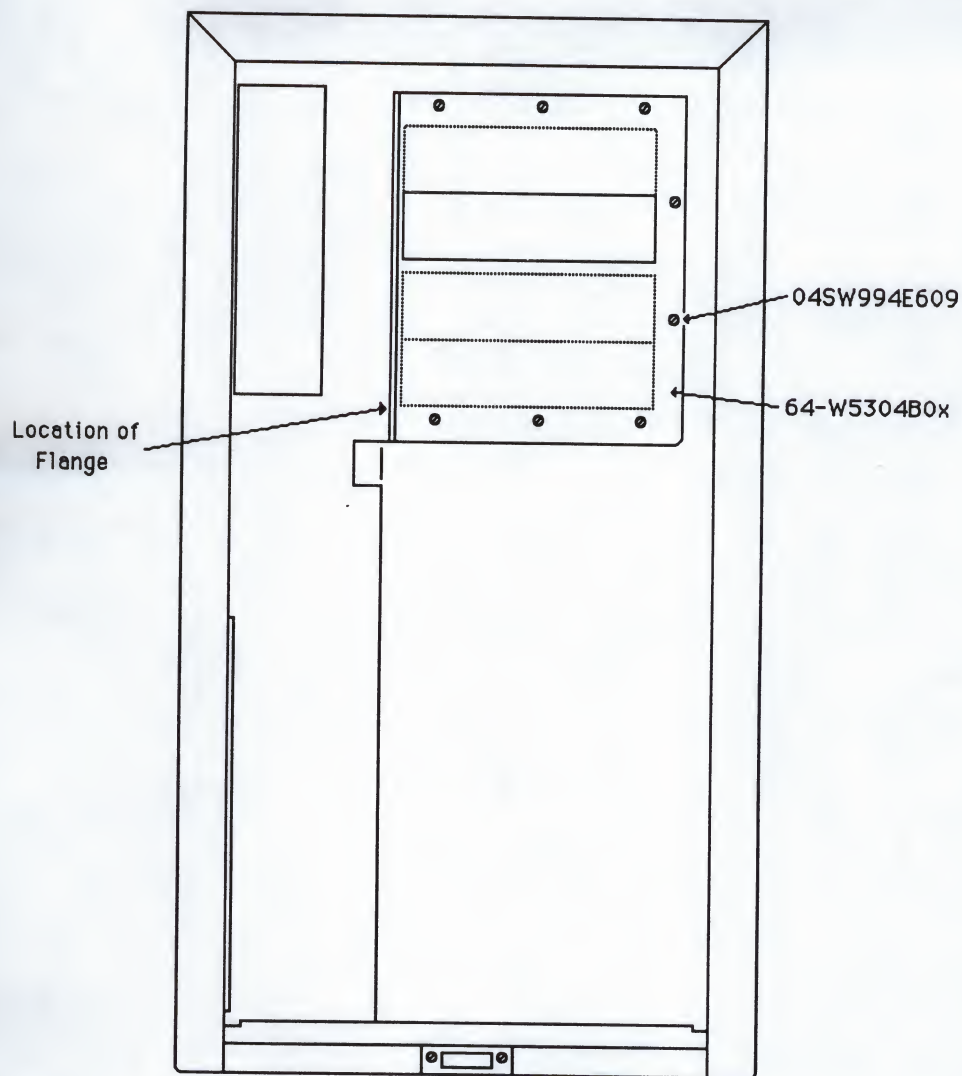


FIGURE 9

CHAPTER 7

MVME881K-6 and MVME883K-6 Installation Instructions

This document supplies the necessary instructions to install a Floppy Disk Drive/SCSI Controller (MVME881) or an SA-405 Floppy Disk Drive (MVME883) in the 12-slot system (MVME955 enclosure).

The MVME881 includes an SA-405 floppy disk drive and a SCSI Interface board in a full-height package and is connected directly to the SCSI bus.

The MVME883 includes an SA-405 floppy disk drive in a half-height package and is connected directly to the P2 Adaptor of the MVME327A.

NOTE

It is necessary to identify the chassis for which this installation is to be performed. To do this, find the "Product Code" label on the rear of the system. The top line will identify this chassis. The chassis part numbers will either be 01-W1365Bxxx or 01-W1387Bxxx.

Additional Documents

- *System Manual*
- *Standalone System Interactive Diagnostics User's Guide*

System Cautions

The floppy disk drive is a delicate device. Use caution when handling.

Installation Instructions

System Shutdown

- a. Bring the system down as instructed in the System Manual.

CAUTION

Inserting/removing modules while power is applied may result in damage to module components.

- b. Turn the AC power off and remove the AC cord from the computer system.

Chassis Preparation

- a. To remove the shroud, insert a stout instrument (such as a screwdriver) into the slot at the bottom center front of the shroud. Push up the latch release pin and pull the shroud forward until it is removed.

CAUTION

Avoid touching areas of integrated circuitry; static discharge can damage these circuits.

MVME881 Floppy Disk Drive/SCSI Controller Installation

NOTE

This floppy is installed in a system with an MVME147S-1 or MVME147SA-1.

- a. Check the jumpers on the 1.2Mb floppy disk drive. See Figure 1A for drive P/N 01-W0316B02. See Figure 1B for drive P/N 01-W0316B03. The terminator resistor pack MUST be installed at J3 on the drive.
- b. Check the jumpers on the SCSI controller (P/N 01-W2091C01). See Figure 2.

Use the following TWO steps for installation in chassis 01-W1365Bxxx ONLY

- a. If it hasn't already been done, mount the drive/controller assembly to the drive cradle using the four screws provided.
- b. Gently slide the drive/controller assembly into the second from the top drive slot (see Drive Placement Chart) until the drive mounting bracket flanges contact the flanges in the drive assembly. Tighten the mounting screws on either side of the drive mounting brackets. Continue with *Cabling and Final Assembly*.

Use the following steps for installation in chassis 01-W1387Bxxx ONLY

- It will be necessary to disassemble the SCSI controller and floppy disk drive from the dummy filler. Discard the old dummy filler (P/N 07-W5491B01) after disassembly.
- a. Remove the power extender cable (P/N 30-W2220C01) from the SCSI controller board.
 - b. Remove the SCSI controller/floppy cable (P/N 30-W2934B03) from the SCSI controller board.
 - c. While holding the floppy/controller assembly upside down, with the rear of the assembly toward you (see Figure 5) exert downward pressure at points **A** of the SCSI controller board. This will dislodge the controller from points **B**.
 - d. Likewise, exert upward pressure at points **A** to dislodge the controller from points **C**. See Figure 5.
 - e. Slide the SCSI controller board out of the dummy filler.
 - f. Remove and discard the four screws holding the dummy filler to the floppy. Discard the dummy filler.

- g. Attach the SCSI controller to the floppy disk drive, using four screws (P/N 03SW993D308), along with the eight nylon washers (P/N 04NW9005A61) and two drive spacers (P/N 64-W5415B01).

Place the drive spacer next to the drive, then place 1 washer each between the controller and the spacer, and 1 washer each above the controller and then fasten with the screw.

NOTE: Be sure to keep the driver spacers flat against the side of the drive while tightening the screws. See Figure 6, Detail A.

- h. Reconnect the SCSI controller/floppy cable (P/N 30-W2934B03) to the SCSI controller at J7. See Figure 6. Make sure to line up the red, blue, or dark grey stripe is matching Pin 1 on the SCSI controller board.
- i. Gently slide the new floppy/controller just assembled into the correct slot of the chassis, according to the Drive Placement Chart, until the screw holes in the side panels line up with screws holes in the assembly. Secure the assembly by installing the four screws provided (P/N 03SW990F606). See Figure 7.

Cabling and Final Assembly

- a. Attach the SCSI cable coming from the P2 adaptor of the MVME147 (and the other drives) to the SCSI cable on the floppy/SCSI controller (P/N 30-W2934B03), matching pin 1 on the SCSI cable with the red, blue, or dark grey stripe on the cable coming from the floppy/SCSI controller. Make sure that pin 1 is toward the right of the system (as seen from the back of the drive). See Figure 3.
- b. Connect the cable marked "P6" of the DC power harness (P/N 30-W2220C01) to the back of the floppy drive at J2. See Figure 3.
- c. Connect the cable marked "P5" of the DC power harness (P/N 30-W2220C01) to the back of the SCSI controller at J10. See Figure 3.
- d. Connect the DC power cable (coming from the chassis) to the power harness, installed in the previous step, at connector marked "S2."
- e. Remove the eight screws holding the drive plate to the front plastic bezel, which is mounted to the shroud. See Figure 4.
- f. Attach the appropriate drive plate to the plastic bezel with the new screws (P/N 03SW994E609).
 - Use drive plate, 64-W5304B11, if there is just a single drive in the top drive position.
 - Use drive plate, 64-W5304B12, if there are two drives in the top drive position.

Make sure that the flange on the new drive plate is mounted upward and on the left side. See Figure 4. Continue at *Completion and Testing*.

MVME883 SA-405 Floppy Disk Drive Installation

NOTE

This floppy is installed in a system with an MVME141 and MVME327A.

- a. Check the jumpers on the 1.2Mb floppy disk drive. See Figure 1A for drive P/N 01-W0316B02. See Figure 1B for drive P/N 01-W0316B03. The terminator resistor pack MUST be installed at J3 on the drive.

Use the following FOUR steps for installation in chassis 01-W1365Bxxx ONLY.

- a. Remove the SCSI cable and power cable from the first streaming tape drive.
- b. Remove the streaming tape drive/cradle assembly from the chassis by loosening the two screws on either side of the cradle.
- c. Mount the new floppy disk drive to the top of the first streaming tape drive by securing it with the four screws provided.

NOTE: The adaptor plates are already installed on the first drive. See Figure 8.

- d. Gently slide the drive assembly back into the top drive slot until the drive mounting bracket flanges contact the flanges in the drive assembly. Tighten the mounting screws on either side of the drive mounting brackets. Continue with *Cabling and Final Assembly*.

Use the following STEP for installation in chassis 01-W1387Bxxx ONLY.

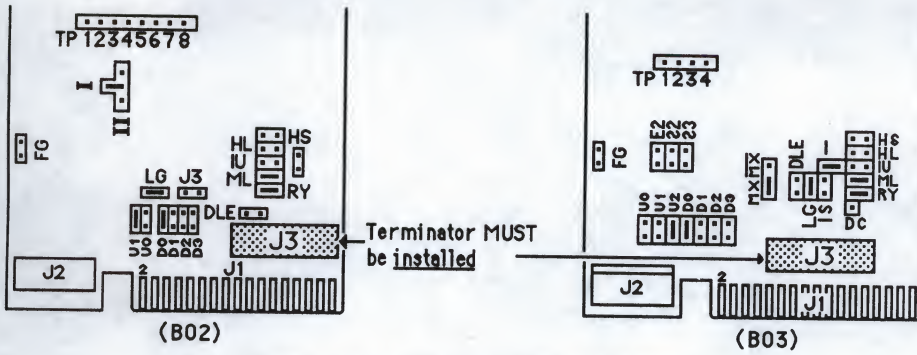
- a. Install the new floppy drive in the appropriate drive slot (according to the SCSI Drive Placement Chart). Secure the drive by installing the four screws provided. See Figure 7. Continue with *Cabling and Final Assembly*.

Cabling and Final Assembly

- a. If necessary, reattach the SCSI cable (coming from the P2 adaptor of the MVME327A and the other drives) to the SCSI connector on the streaming tape, matching pin 1 of the SCSI cable with pin 1 on the streaming tape drive. Make sure that pin 1 is toward the left of the system (as seen from the back of the drive). See Figure 9.
- b. Attach the floppy data cable (P/N 30-W2934B05) edge connector to the floppy drive at J1. Locate the red, blue, or dark grey stripe on the cable toward the right of the system (as seen from the back of the drive). See Figure 10.
- c. Route the cable down toward the rear of the backplane. Install the connector to J2 on the P2 adaptor board, which is located on the back side of the backplane, opposite the MVME327A board. Make sure that the red, blue, or dark grey stripe is facing up. See Figure 11.
- d. Connect the power plugs, coming from the cable harness in the system, into the power connectors on both the streaming tape drive and the SA-405 floppy disk drive (at J2). See Figures 9 and 10.
- e. Remove the eight screws holding the drive plate to the front plastic bezel, which is mounted to the shroud. See Figure 4.
- f. Attach the drive plate (P/N 64-W5304B08) to the plastic bezel with the new screws (P/N 03SW994E609). Make sure that the flange on the new drive plate is mounted upward and on the left side. See Figure 4.

Completion and Testing

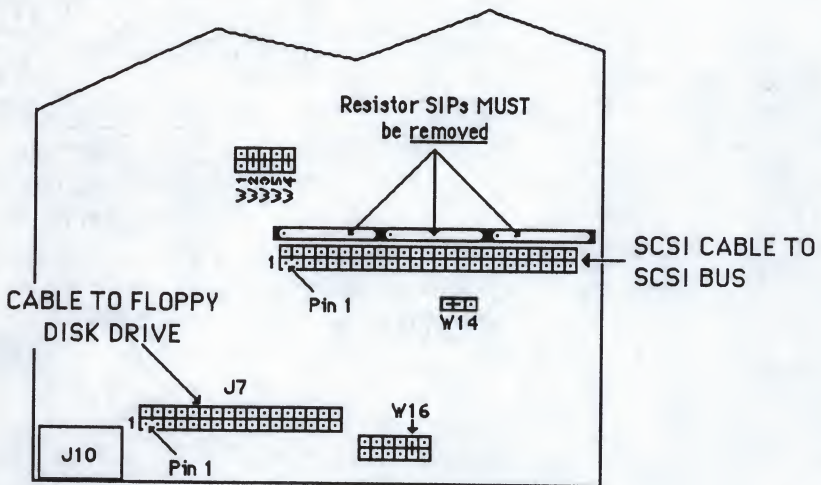
- a. Slide the shroud all the way forward until a slight "click" is heard as it locks itself into place.
- b. Mark product code label, located on the outside of the rear panel, with the product code number. Use **881K** if an MVME881K was installed. Use **883K** if an MVME883K was installed.
- c. Reconnect the AC power cord, turn the system on, and test using Diagnostics.



1.2 Mbyte Floppy Disk Drive

FIGURE 1A

FIGURE 1B



SCSI CONTROLLER

FIGURE 2

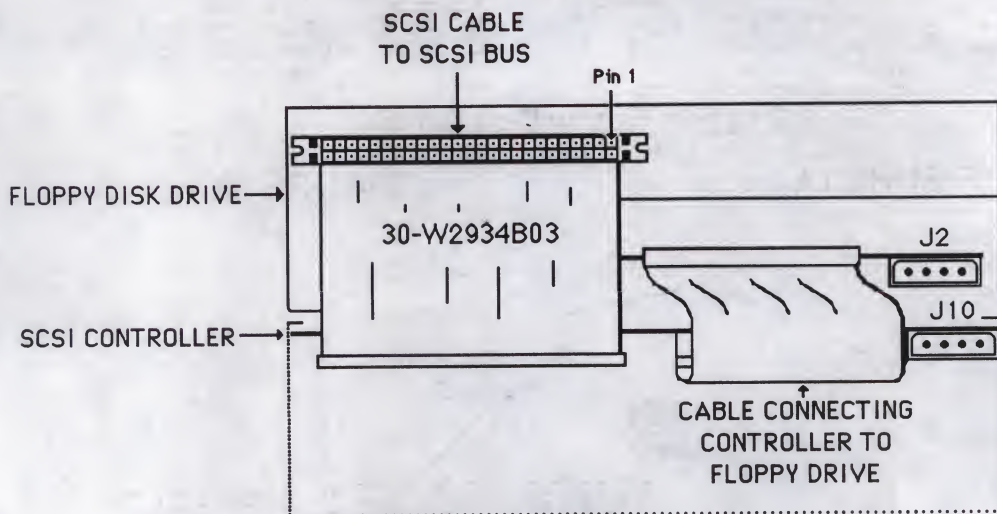


FIGURE 3

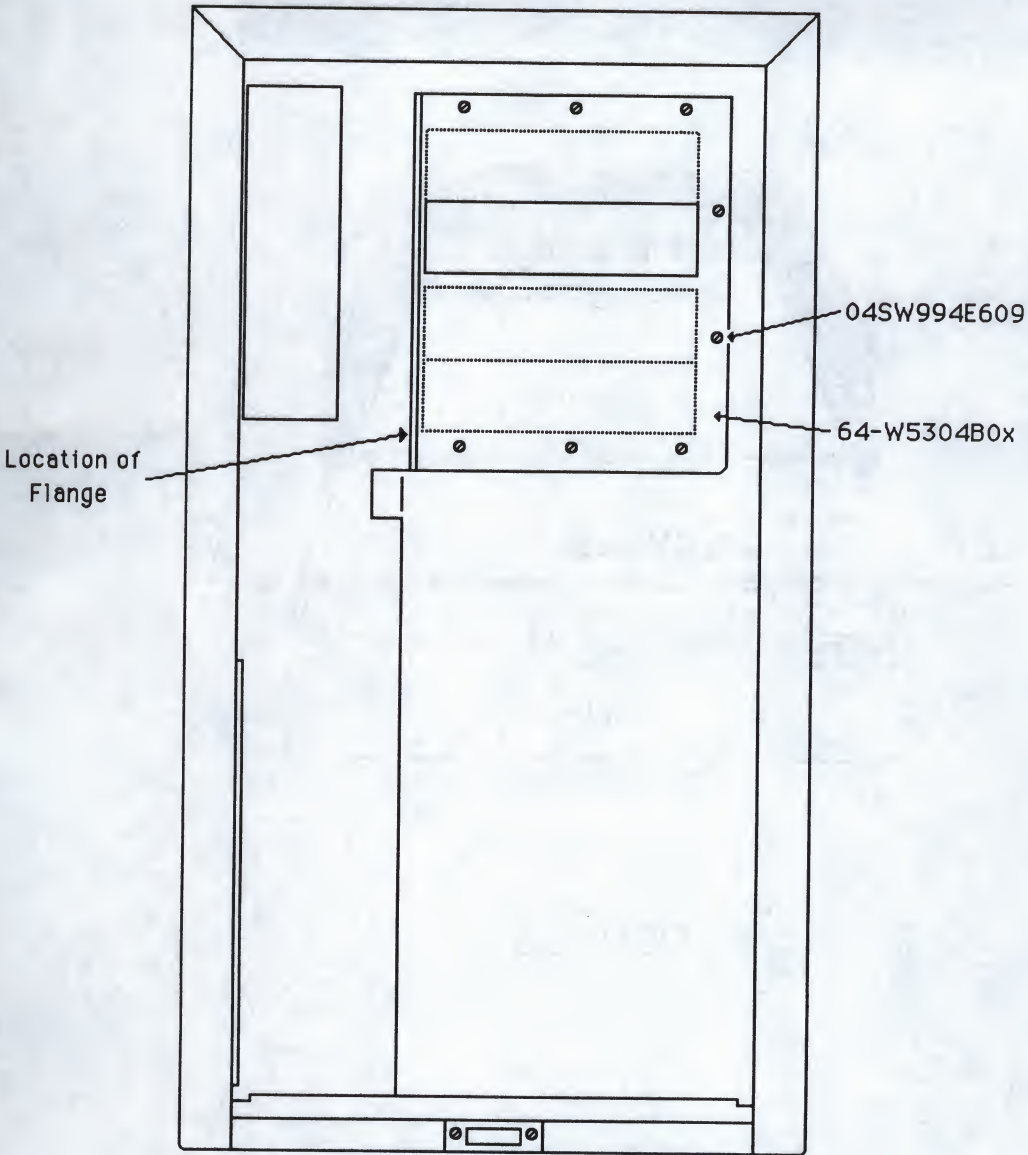


FIGURE 4

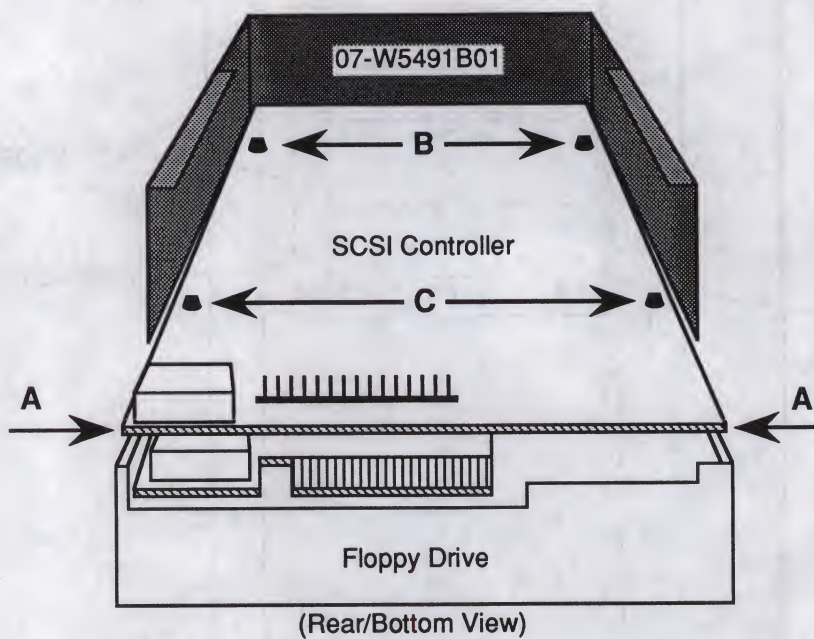


FIGURE 5

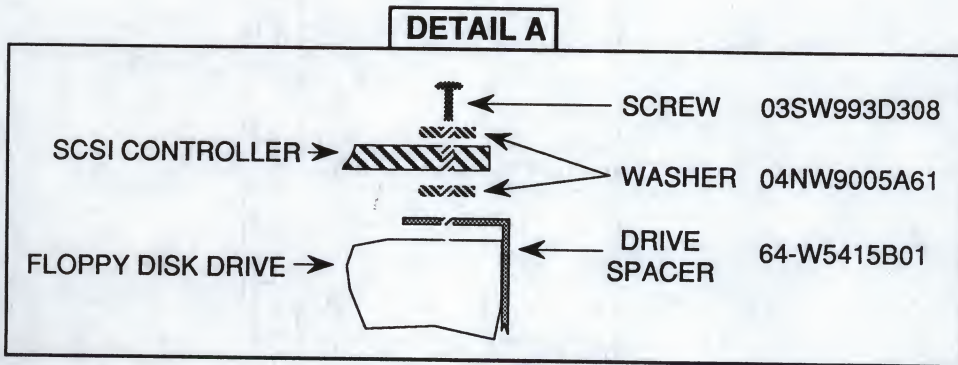
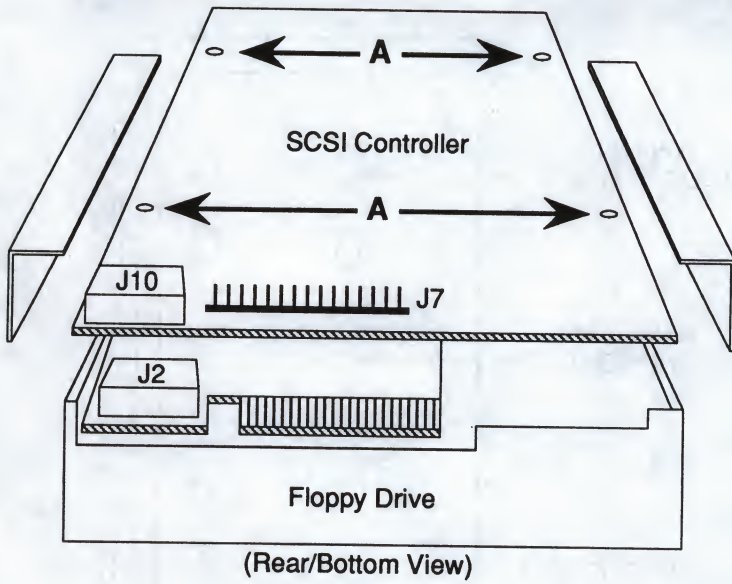


FIGURE 6

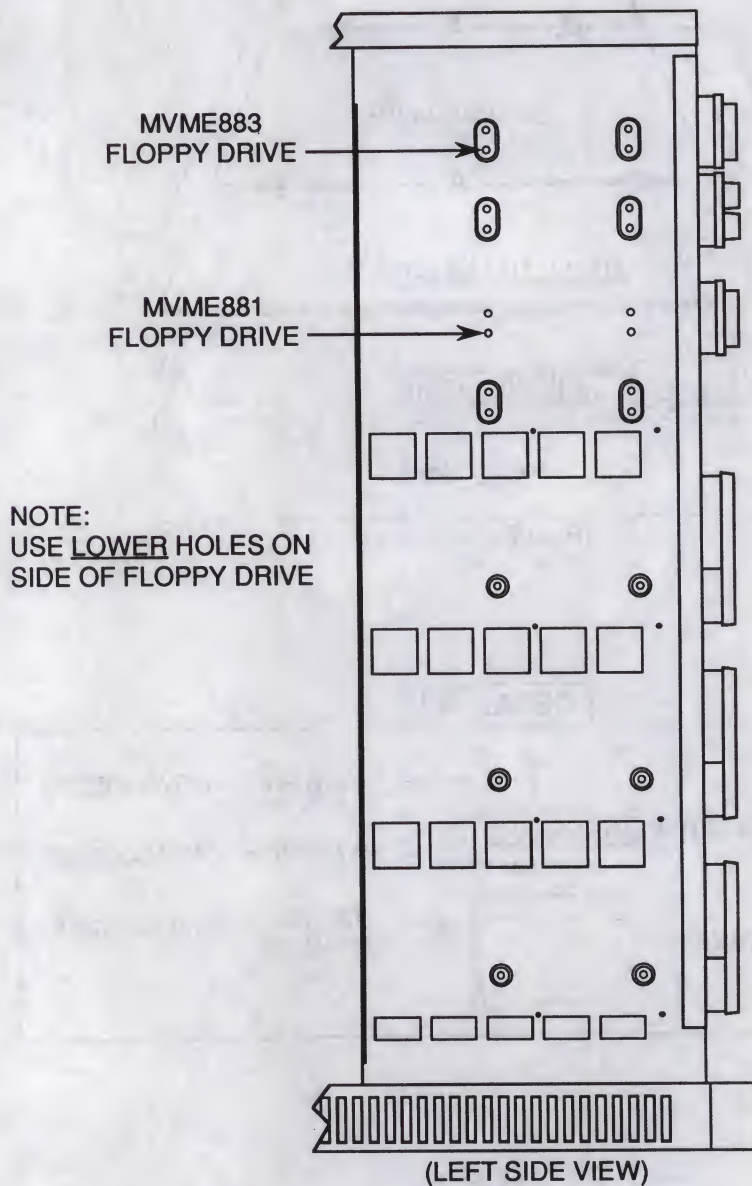


FIGURE 7

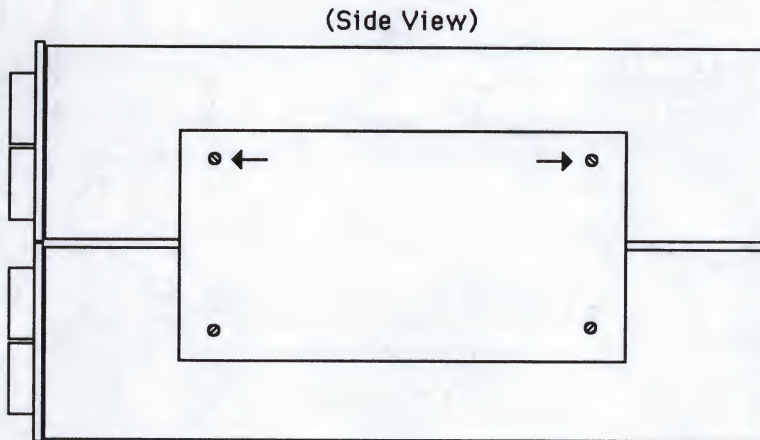
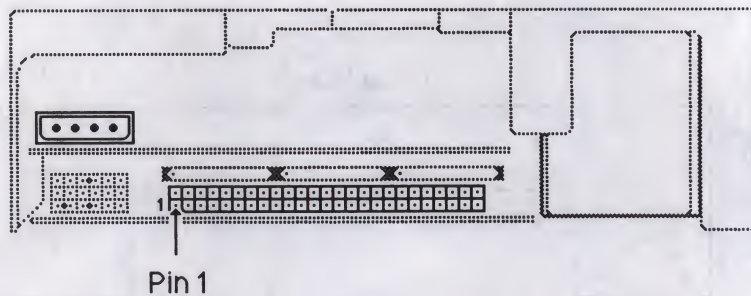


FIGURE 8



STREAMING TAPE DRIVE

(Reference Only.)

FIGURE 9

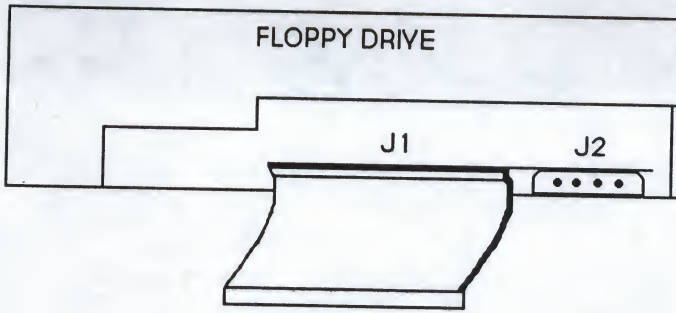
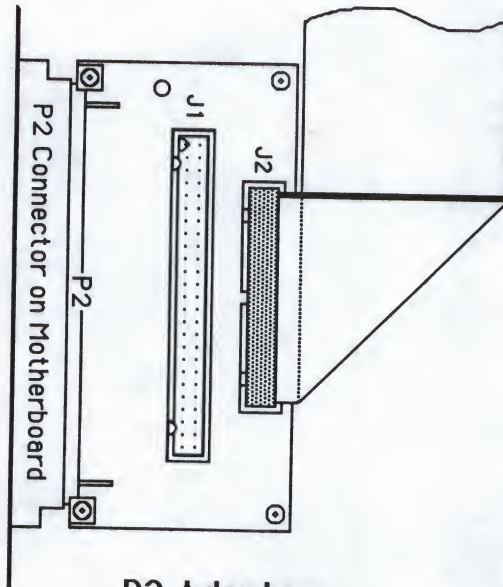


FIGURE 10



P2 Adaptor
with Floppy Cable

FIGURE 11

CHAPTER 8 **Drive and Board Placement and Cabling Charts**

3604/08 CARD CAGE

1	2	3	4	5	6	7	8	9	10	11	12	◀ SLOT / PRIORITY ▶	
1st												MVME147-1	1
1st												MVME147A-1	1
1st												MVME147S/A-1	1
	1st	2nd										1ST MVME224-2	2
		1st	2nd									2ND MVME224-2	3
	1st	2nd	3rd									1ST MVME224-1	4
		1st	2nd									2ND MVME224-1	5
	1st	2nd	3rd	4th								MVME330-A	6
	1st	2nd	3rd	4th	5th							MVME374	7
	1st	2nd	3rd	4th	5th	6th						MVME330-B	8
	1st	2nd	3rd	4th	5th	6th	7th					1ST MVME332XT	9
		1st	2nd	3rd	4th	5th	6th	7th				2ND MVME332XT	10
			1st	2nd	3rd	4th	5th	6th	7th			3RD MVME332XT	11
				1st	2nd	3rd	4th	5th	6th	7th		4TH MVME332XT	12
					1st	2nd	3rd	4th	5th	6th	7th	5TH MVME332XT	13
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	1ST MVME333	14
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	2ND MVME333	15
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	MVME333X25	16
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	MVME336	17
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	MVME393	18

3604/08 BACK PANEL

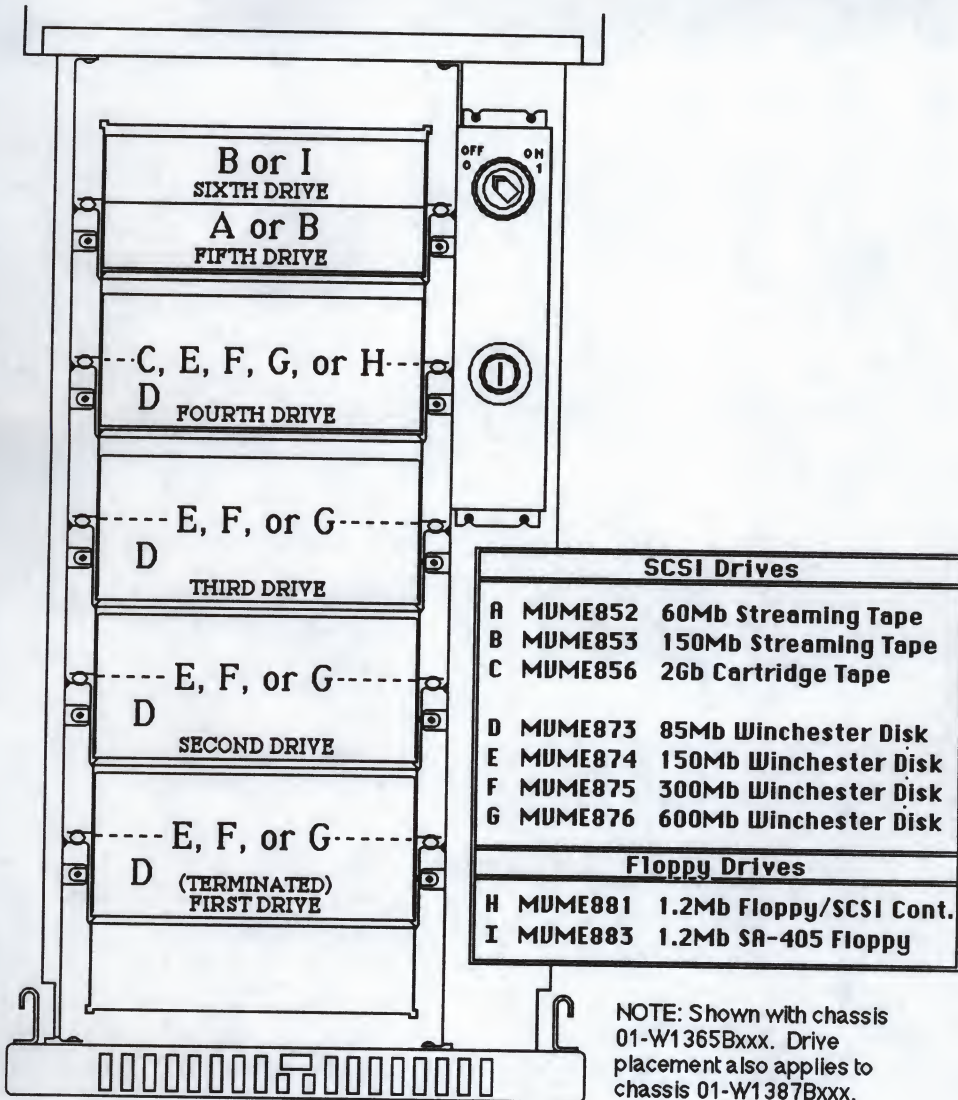
12	11	10	9	8	7	6	5	4	3	2	1	← SLOT / PRIORITY →	
										1st		MVME712M/147	1
											1st	MVME712A/147S	1
										1st		MVME712B/147S	2
									1st			MVMELAN/330A	3
								2nd	1st			MVMELAN/330B	4
								2nd	1st			MVMELAN/374	5
							3rd	2nd	1st			MVME332PA1	6
						4th	3rd	2nd	1st			1ST MVME332PA2	7
					4th	3rd	2nd	1st				2ND MVME332PA2	8
		4th		3rd		2nd		1st				1ST MVME710/332XT	9
4th		3rd		2nd		1st						2ND MVME710/332XT	10
3rd		2nd		1st								3RD MVME710/332XT	11
2nd		1st										4TH MVME710/332XT	12
1st												5TH MVME710/332XT	13
5th		4th		3rd		2nd		1st				1ST MVME705A/333x	14
4th		3rd		2nd		1st						2ND MVME705A/333x	15
10th	9th	8th	7th	6th	5th	4th	3rd	2nd	1st			1ST MVME705B/333x	16
9th	8th	7th	6th	5th	4th	3rd	2nd	1st				2ND MVME705B/333x	17
5th		4th		3rd		2nd		1st				MVME751/336	18
10th	9th	8th	7th	6th	5th	4th	3rd	2nd	1st			MVME792-2/393	19

3640 CARD CAGE

1	2	3	4	5	6	7	8	9	10	11	12	← SLOT / PRIORITY →	
1st												MVME141-2	1
	1st											1ST MVME224-2	2
		1st										2ND MVME224-2	3
			1st									3RD MVME224-2	4
				1st								4TH MVME224-2	5
	1st	2nd	3rd	4th								1ST MVME224-1	6
		1st	2nd	3rd								2ND MVME224-1	7
			1st	2nd								3RD MVME224-1	8
				1st								4TH MVME224-1	9
										1st		MVME323-2	10
									1st			MVME350	11
										1st		MVME327A	12
		1st	2nd	3rd	4th							MVME330-A	13
		1st	2nd	3rd	4th	5th						MVME374	14
		1st	2nd	3rd	4th	5th						MVME330-B	15
		1st	2nd	3rd	4th	5th	6th					1ST MVME332XT	16
			1st	2nd	3rd	4th	5th	6th				2ND MVME332XT	17
				1st	2nd	3rd	4th	5th	6th			3RD MVME332XT	18
					1st	2nd	3rd	4th	5th	6th		4TH MVME332XT	19
						1st	2nd	3rd	4th	5th		5TH MVME332XT	20
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th		1ST MVME333	21
			1st	2nd	3rd	4th	5th	6th	7th	8th		2ND MVME333	22
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th		MVME333X25	23
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th		MVME336	24
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th		MVME393	25

3640 BACK PANEL

12	11	10	9	8	7	6	5	4	3	2	1	← SLOT / PRIORITY →	
											1st	MVME714M/141	1
1st												MVME717/327	2
										1st		MVMELAN/330A	3
									2nd	1st		MVMELAN/330B	4
									2nd	1st		MVMELAN/374	5
								3rd	2nd	1st		MVME332PA1	6
							4th	3rd	2nd	1st		MVME332PA2	7
					3rd		2nd		1st			1ST MVME710/332XT	8
			3rd		2nd		1st					2ND MVME710/332XT	9
	3rd		2nd		1st							3RD MVME710/332XT	10
	2nd		1st									4TH MVME710/332XT	11
	1st											5TH MVME710/332XT	12
	5th		4th		3rd		2nd		1st			1ST MVME705A/333x	13
	4th		3rd		2nd		1st					2ND MVME705A/333x	14
11th	10th	9th	8th	7th	6th	5th	4th	3rd	2nd	1st		1ST MVME705B/333x	15
10th	9th	8th	7th	6th	5th	4th	3rd	2nd	1st			2ND MVME705B/333x	16
	5th		4th		3rd		2nd		1st			MVME751/336	17
11th	10th	9th	8th	7th	6th	5th	4th	3rd	2nd	1st		MVME792-2/393	18



3604/08/40 SCSI & SA-450 DRIVE PLACEMENT

1. Name of the person 2. Address 3. City 4. State 5. Zip 6. Telephone 7. Date 8. Signature 9. Printed name 10. Title	
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